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FILE LAST UPDATED: 23 Mar 2003  (20030323/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE

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     (FILE 'HOME' ENTERED AT 13:30:45 ON 24 MAR 2003)

     FILE 'HCAPLUS' ENTERED AT 13:31:42 ON 24 MAR 2003
L1         70231 S HEME OR HEMIN OR HEMOGLOBIN#  OR HEMO (L) GLOBIN#
L2         29156 S PLANT# (L) CELL#
L3            77 S L1 AND L2
L4          7338 S PLANT#  CELL#/CW
L5            40 S L4 AND L3
L6            28 S PROTEIN# AND L5
L7           748 S L1 (L) PROTEIN# (L) (PREP/RL OR PREPAR? OR MANUF? OR PRODUC?
L8             7 S L2 AND L7
L9            14 S L7 AND PLANT#/CW
L10           14 S L8 OR L9
L11         2111 S L1 (L) (PREP/RL)
L12            0 S L11 (L) PLANT#/CW
L13           20 S L11 AND PLANT#/CW
L14           26 S L10 OR L13

     FILE 'HCAPLUS' ENTERED AT 13:38:50 ON 24 MAR 2003

=> d que l14
L1         70231 SEA FILE=HCAPLUS ABB=ON  PLU=ON  HEME/OBI OR HEMIN/OBI OR
                 HEMOGLOBIN#/OBI  OR HEMO/OBI (L) GLOBIN#/OBI
L2         29156 SEA FILE=HCAPLUS ABB=ON  PLU=ON  PLANT#/OBI (L) CELL#/OBI
L7           748 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 (L) PROTEIN#/OBI (L)
                 (PREP/RL OR PREPAR?/OBI OR MANUF?/OBI OR PRODUC?/OBI OR
                 SYNTHES?/OBI)
L8             7 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L2 AND L7
L9            14 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7 AND PLANT#/CW
L10           14 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L8 OR L9
L11         2111 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 (L) (PREP/RL)
L13           20 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L11 AND PLANT#/CW
L14           26 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10 OR L13
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=> d .ca l14 1-26

L14 ANSWER 1 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:192828 HCAPLUS
DOCUMENT NUMBER: 138:186457
TITLE: Transgenic Dunaliella salina bioreactor
INVENTOR(S): Xue, Lexun; Pan, Weidong; Jiang, Guozhong; Zheng, Heming; Zhang, Guixing; Lu, Yumin; Lu, Zhaoming; Wang, Jianmin; Niu, Xiangli; Wang, Jun
PATENT ASSIGNEE(S): Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1356388	A	20020703	CN 2000-131217	20001203

PRIORITY APPLN. INFO.: CN 2000-131217 20001203

AB The invention relates to the expression of heterologous gene (such as human or mammalian animal genes, plant genes, insect genes, and microbial genes) in Dunaliella salina via conventional genetic transformation method with specific screening marker (such as aadA, cat, nptII/neo, and Hyg'). The invention also relates to the application of the transgenic Dunaliella salina in prepg. human or veterinary vaccines. Tumor necrosis factor was expressed in Dunaliella salina by microjectile bombardment method.

IC ICM C12N001-12
ICS C12N015-87; C12N015-63; A61K039-395
CC 16-2 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 3, 15
IT Agrobacterium
Bioreactors
Dunaliella salina
Electroporation
Fermentation
Genetic markers
Genetic methods
Human
Microprojectile bombardment
Plant virus
Sound and Ultrasound
Transformation, genetic
Vaccines
(transgenic Dunaliella salina bioreactor)
IT Cytokinins
Hemoglobins
Interferons
Interleukins
Tumor necrosis factors
RL: BPN (Biosynthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(transgenic Dunaliella salina bioreactor)
IT Gene, **plant**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(transgenic Dunaliella salina bioreactor)

L14 ANSWER 2 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:964475 HCAPLUS
DOCUMENT NUMBER: 138:20498
TITLE: Production of proteins in plants by using expression vectors comprising a transcription initiator and a plurality structure genes
INVENTOR(S): Hall, Gerald; Bascomb, Newell; Bossie, Mark
PATENT ASSIGNEE(S): Icon Genetics, Inc., USA
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002101006	A2	20021219	WO 2002-US17927	20020607

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-297103P P 20010608

AB The present invention provides compns. and methods for producing proteins in plants, particularly proteins that in their native state require the coordinate expression of a plurality of structural genes in order to become biol. active. The ultimate products typically possess therapeutic, diagnostic or industrial utility. Specifically, the invention is directed to a recombinant nucleic acid mol., or expression unit, contg. from 5' to 3', a transcription initiator, which is a promoter or enhancer functional in a plant cell, and a plurality of structural genes encoding subunits of a multi-subunit protein, each sepd. by an internal ribosome binding sequence. The invention further provides genetic constructs that are useful for either transient or stable expression in plants and plant cells and result in expression of active biomols. not endogenously produced by a plant.

IC ICM C12N
CC 3-2 (Biochemical Genetics)
Section cross-reference(s): 6, 11
IT **Plant** tissue
(apoplast, expression product targeting to; prodn. of proteins in plants by using expression vectors comprising transcription initiator and plurality structure genes)
IT **Plant** tissue
(callus, transgenic; prodn. of proteins in plants by using expression vectors comprising transcription initiator and plurality structure genes)
IT **Cell** nucleus
Cell wall
Chloroplast
Endoplasmic reticulum
Mitochondria
Peroxisome
Plastid

(expression product targeting to; prodn. of proteins in **plants** by using expression vectors comprising transcription initiator and plurality structure genes)

IT Antibodies
Enzymes, biological studies
Fusion proteins (chimeric proteins)
Hormones, **plant**
Interferons
Receptors
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(expression vector encoding; prodn. of proteins in plants by using expression vectors comprising transcription initiator and plurality structure genes)

IT Organ, **plant**
(hypocotyl, transgenic; prodn. of proteins in plants by using expression vectors comprising transcription initiator and plurality structure genes)

IT **Hemoglobins**
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); **PREP (Preparation)**
(like **protein**, expression vector comprising; **prodn.** of **proteins** in plants by using expression vectors comprising transcription initiator and plurality structure genes)

IT **Plant** tissue
(meristem, transgenic; prodn. of proteins in plants by using expression vectors comprising transcription initiator and plurality structure genes)

IT TCR (T **cell** receptors)
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(single chain, expression vector encoding; prodn. of proteins in **plants** by using expression vectors comprising transcription initiator and plurality structure genes)

IT **Plant** tissue culture
(suspension, transgenic; prodn. of proteins in plants by using expression vectors comprising transcription initiator and plurality structure genes)

IT Alfalfa (Medicago sativa)
Arabidopsis
Brassica
Brassicaceae
Corn
Cottonseed
Fabaceae
Leaf
Plant cell
Plant tissue
Pollen
Protoplast and Spheroplast
Root
Seed
Soybean (Glycine max)
Stem
Sunflower
Tobacco
(transgenic; prodn. of proteins in **plants** by using expression vectors comprising transcription initiator and plurality structure genes)

L14 ANSWER 3 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:946315 HCAPLUS
DOCUMENT NUMBER: 138:16580
TITLE: Production of a stress protein
INVENTOR(S): Hubertus de Jong, Govardus Adrianus; Boumans, Johannes Wilhelmus Leonardus
PATENT ASSIGNEE(S): Alfa Biogene International B.V, Neth.
SOURCE: PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002098910	A1	20021212	WO 2002-NL365	20020604
W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
NL 1018211	C2	20021210	NL 2001-1018211	20010605

PRIORITY APPLN. INFO.: NL 2001-1018211 A 20010605

AB The present invention relates to an economically attractive method for increasing the stress protein content (as percentage of the total protein content) in a liq. Also, the invention relates to a stress protein product and to use of a stress protein in applications such as food products and pharmaceutical prepns. for man and animal.

IC ICM C07K014-415
ICS A23L001-305; A23J001-14; A61K038-04; A61K007-06
CC 63-3 (Pharmaceuticals)
Section cross-reference(s): 5, 16, 62
IT Alfalfa (Medicago sativa)
Aquatic **plant**
Beet
Cereal (grain)
Poaceae
Potato (Solanum tuberosum)
Soybean (Glycine max)
(stress proteins from; prodn. of stress proteins for foods and pharmaceuticals)
IT 9035-51-2P, Cytochrome P 450, biological studies 9059-22-7P, **Heme** oxygenase 60267-61-0P, Ubiquitin
RL: BPN (Biosynthetic preparation); FFD (Food or feed use); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(**prodn**. of stress **proteins** for foods and pharmaceuticals)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 4 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:927638 HCAPLUS
DOCUMENT NUMBER: 137:365572

TITLE: Use of phytochromes for light-controlled gene expression and protein translocation into nucleus
INVENTOR(S): Lagarius, John Clark; Kochi, Takayuki; Frankenberg, Nicole; Gambetta, Gregory A.; Montgomery, Beronda L.
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: PCT Int. Appl., 102 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002097137	A1	20021205	WO 2002-US17266	20020529

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-294463P P 20010529

AB This invention relates to the use of heterologous phytochromes to translocate polypeptides into the nucleus of a cell. Where the polypeptides comprise transactivators or repressors this invention provides a system for light-directed gene expression. This invention identifies a novel family of bilin reductases. Designated herein HY2 bilin reductases, the enzymes of this invention are useful in a wide variety of contexts including but not limited to the conversion of biliverdins to phytobilins and the assembly of holophytochromes or phytofluors. The HY2 family of bilin reductases are ferredoxin-dependent. Using the HY2 protein sequence as a query sequence, HY2 family members were identified in the genomes of various cyanobacteria, oxyphotobacteria and plants.

IC ICM C12Q001-68
ICS C12N015-63; C12N015-85; C12N015-87; C12N015-82
CC 7-5 (Enzymes)
Section cross-reference(s): 3, 10, 11, 16
IT Gene, **plant**
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(HY2; cloning and use of HY2 family of ferredoxin-dependent bilin reductases from bacteria and plants)
IT 9059-22-7P, **Heme** oxygenase
RL: BCP (Biochemical process); BPN (Biosynthetic preparation); BIOL (Biological study); **PREP (Preparation)**; PROC (Process)
(cloning and use of HY2 family of ferredoxin-dependent bilin reductases from bacteria and plants)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 5 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:595016 HCAPLUS
DOCUMENT NUMBER: 137:153955
TITLE: Manufacture of the hemoglobin receptor of Porphyromonas gingivalis by high level expression of the cloned gene

INVENTOR(S): Hunter, Neil; Collyer, Charles A.; Langley, David B.
PATENT ASSIGNEE(S): University of Sydney, Australia
SOURCE: PCT Int. Appl., 115 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002061091	A1	20020808	WO 2002-AU102	20020201

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: AU 2001-2825 A 20010201

AB Expression constructs that can be used to manuf. the Hb receptor of Porphyromonas gingivalis are described. The receptor can be manufd. in an Escherichia coli expression host in quantities and quality suitable for anal. of receptor function and drug design. A synthetic equiv. of the rgp gene of P. gingivalis with codon usage optimized for Escherichia coli was designed and constructed by std. methods. The protein was labeled with hexahistidine affinity tags to simplify purifn. The protein is accumulated as inclusion bodies that are solubilized, purified by nickel chelate affinity chromatog. and renatured by std. methods. The purified protein, which shows a tendency to aggregate, binds hemin as expected.

IC ICM C12N015-31
ICS A61K039-40

CC 16-4 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 1, 3, 10, 14

ST Porphyromona **Hb** receptor synthetic gene **protein manuf**

IT Receptors
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(**Hb**; manuf. of **Hb** receptor of Porphyromonas gingivalis by high level expression of cloned gene)

IT Animal cell
Bacteria (Eubacteria)
Escherichia coli
Fungi
Insecta
Plant cell
Yeast
(expression host; manuf. of Hb receptor of Porphyromonas gingivalis by high level expression of cloned gene)

IT DNA sequences
Protein sequences
(for **Hb** receptor of Porphyromonas; **manuf**. of **Hb** receptor of Porphyromonas gingivalis by high level expression of cloned gene)

IT Synthetic gene

RL: BUU (Biological use, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(microbial, for **Hb** receptor of Porphyromonas; manuf. of **Hb** receptor of Porphyromonas gingivalis by high level expression of cloned gene)

IT Fermentation
(**protein**, of **Hb** receptor; **manuf**. of **Hb** receptor of Porphyromonas gingivalis by high level expression of cloned gene)

IT Gene, microbial
RL: BUU (Biological use, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(synthetic, for **Hb** receptor of Porphyromonas; manuf. of **Hb** receptor of Porphyromonas gingivalis by high level expression of cloned gene)

IT 445443-77-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(amino acid sequence; manuf. of **Hb** receptor of Porphyromonas gingivalis by high level expression of cloned gene)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 6 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:403936 HCAPLUS
DOCUMENT NUMBER: 136:397066
TITLE: Enhancing expression of a silenced target sequence in plants using plant viral enhancers and amplicons
INVENTOR(S): Vance, Vicki Bowman
PATENT ASSIGNEE(S): University of South Carolina, USA
SOURCE: U.S., 11 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6395962	B1	20020528	US 1999-338397	19990622

PRIORITY APPLN. INFO.: US 1999-338397 19990622

AB Compns. and methods for modulating gene expression in plants are provided. The methods comprise the use of a gene silencer (amplicon) in combination with an enhancer sequence (suppressor of co-suppression). Amplicons comprise a targeting sequence corresponding to the gene of interest, the target gene. The amplicon will direct gene silencing against a sequence with homol. to the targeting sequence, (the target sequence). The amplicon may optionally comprise a promoter and a sequence that corresponds to at least a part of a viral genome. Specifically, high-level transgene expression is demonstrated by pairing the amplicon approach with the use of a viral suppressor of PTGS (post-transcriptional gene silencing), tobacco etch virus (TEV) helper component-proteinase (HC-Pro). The ability of TEV HC-Pro gene to reverse amplicon silencing and produce turbocharged expression is also tested in tobacco amplicon lines or their cross lines. The cross line of transgenic tobacco plants expressing the P1/HC-Pro gene and transgenic tobacco expressing a replicating RNA comprising a portion of the genomic RNA of potato virus X

(coat protein gene replaced by uidA reporter gene) has exceptionally higher GUS activity (two orders of magnitude) than previous transgenic line. Furthermore, the effect of the mutations in the potyviral P1/HC-Pro sequence is also tested. Addnl., five other viral suppressors of silencing have been identified. The invention is useful to enhance transgene expression in plants which improves their agronomic traits, disease resistance, herbicide resistance and grain characteristics.

IC ICM C12N005-04
ICS C12N015-82; C12N015-90; A01H005-00; A01H005-10
NCL 800278000
CC 3-4 (Biochemical Genetics)
Section cross-reference(s): 6, 7, 10, 11
IT **Plant** cell
(amplicon silencing suppression in; enhancing expression of a silenced target sequence in plants using plant viral enhancers and amplicons)
IT Disease resistance, **plant**
Herbicide resistance
(conferred from the enhanced transgene expression; enhancing expression of a silenced target sequence in plants using plant viral enhancers and amplicons)
IT Collagens, preparation
Cytokines
Growth factors, animal
Hemoglobins
Hormones, **plant**
Transgene
p53 (protein)
RL: BPN (Biosynthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(expression enhancement in transgenic plants; enhancing expression of a silenced target sequence in plants using plant viral enhancers and amplicons)
IT **Plant** tissue
Seed
(promoter-specific, in regulation of transgene expression in transgenic plants; enhancing expression of a silenced target sequence in plants using plant viral enhancers and amplicons)
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 7 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:107568 HCAPLUS
DOCUMENT NUMBER: 136:162283
TITLE: Expression and secretion of biologically active polypeptides in duckweed
INVENTOR(S): Stomp, Anne-Marie; Dickey, Lynn; Gasdaska, John
PATENT ASSIGNEE(S): Biolex, Inc., USA
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002010414	A2	20020207	WO 2001-US23400	20010726
WO 2002010414	A3	20021227		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,
UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 2000-221705P P 20000731
US 2001-293330P P 20010523

AB The invention relates to methods and compns. that increase the efficiency of the duckweed gene expression system as a tool for producing biol. active polypeptides. The invention also relates to methods for the directed secretion of biol. active polypeptides from genetically engineered duckweed plant or duckweed nodule culture. Expression of recombinant polypeptides in duckweed is improved by modifying the nucleotide sequence of the expression cassette encoding the polypeptide for improved expression in duckweed. Recovery of biol. active polypeptides from duckweed is improved by linking the biol. active polypeptide to a signal peptide that directs the secretion of the polypeptide into the culture medium.

IC ICM C12N015-82
ICS C12N015-67; C12N015-62; C07K014-56

CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 11

IT Collagens, preparation
Cytokines
Enzymes, preparation
Hemoglobins
Receptors
p53 (protein)
RL: BPN (Biosynthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(expression and secretion of biol. active polypeptides in duckweed)

IT **Plant** tissue culture
(nodule or frond; expression and secretion of biol. active polypeptides in duckweed)

L14 ANSWER 8 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:904470 HCAPLUS
DOCUMENT NUMBER: 136:50278
TITLE: Identification, cloning, sequences and use of HY2 family of ferredoxin-dependent bilin reductases from bacteria and plants
INVENTOR(S): Lagarias, John Clark; Rochi, Takayuki; Frankenberg, Nicole; Gambetta, Gregory A.; Montgomery, Beronda L.
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: PCT Int. Appl., 102 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001094548	A2	20011213	WO 2001-US18326	20010605
WO 2001094548	A3	20020711		

W: CA, JP
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR

EP 1290135 A2 20030312 EP 2001-942007 20010605
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR
PRIORITY APPLN. INFO.: US 2000-210286P P 20000608
WO 2001-US18326 W 20010605

AB This invention identifies a novel family of bilin reductases. Designated herein HY2 bilin reductases, the enzymes of this invention are useful in a wide variety of contexts including but not limited to the conversion of biliverdins to phytobilins and the assembly of holophytochromes or phytofluors. The HY2 family of bilin reductases are ferredoxin-dependent. The genomic sequence and the encoded protein sequence of the gene HY2 phytochromobilin synthase of Arabidopsis thaliana are disclosed. Using the HY2 protein sequence as a query sequence, HY2 family members were identified in the genomes of various cyanobacteria, oxyphotobacteria and plants.

ICI C12

CC 7-5 (Enzymes)
Section cross-reference(s): 3, 10, 11, 16

IT Gene, **plant**
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(HY2; identification, cloning, sequences and use of HY2 family of ferredoxin-dependent bilin reductases from bacteria and plants)

IT Bacteria (Eubacteria)
Insecta
Plant cell
Yeast
(cloning host; identification, cloning, sequences and use of HY2 family of ferredoxin-dependent bilin reductases from bacteria and plants)

IT 9059-22-7P, **Heme** oxygenase
RL: BCP (Biochemical process); BPN (Biosynthetic preparation); BIOL (Biological study); **PREP (Preparation)**; PROC (Process)
(identification, cloning, sequences and use of HY2 family of ferredoxin-dependent bilin reductases from bacteria and plants)

L14 ANSWER 9 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:300891 HCAPLUS
DOCUMENT NUMBER: 134:322353
TITLE: Post-translational modification of recombinant proteins in plants by altering its natural modification abilities
INVENTOR(S): Russell, Douglas; Manjunath, Siva; Bassuner, Ronald
PATENT ASSIGNEE(S): Monsanto Company, USA
SOURCE: PCT Int. Appl., 132 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001029242	A2	20010426	WO 2000-US29027	20001020
WO 2001029242	A3	20020221		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1224309 A2 20020724 EP 2000-978257 20001020
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL
PRIORITY APPLN. INFO.: US 1999-160758P P 19991021
US 2000-195282P P 20000407
WO 2000-US29027 W 20001020

AB The present invention is directed to methods for producing a post-translationally modified heterologous polypeptide in a plant host system by altering the natural post-translational abilities of that plant host system. The post-translational modification may be proteolytic cleavage, glycosylation, phosphorylation,methylation, sulfation, prenylation, acetylation, N-amidation, oxidn., hydroxylation, or myristylation. In a preferred embodiment, this method includes transforming a plant host system with a nucleic acid that encodes a heterologous polypeptide, and isolating that polypeptide from the plant host system. The heterologous proteins may include antibodies and antibody fragments, collagen types I-XX, human protein C, and cytokines. In another aspect of this method, altering the natural post-translational modifications is done by transforming the plant host system with one or more nucleic acid sequences encoding a post-translational modification enzyme. Such plant specific post-translational modifying enzymes include Galactosyl transferase, xylosyl transferase, and fucosyl transferase. In an alternative aspect, the altering is done by mutagenesis of plant host system. In another embodiment, the altering is done by transforming said plant host system with an expression vector comprising a nucleic acid sequence that encodes an antisense nucleic acid. The invention further provides a method for producing a post-translationally modified heterologous polypeptide in a plant host system, by cross-pollinating a first plant, wherein the plant has been transformed with a first expression vector comprising a nucleic acid sequence encoding a heterologous polypeptide, and a second plant wherein the second plant has been transformed with a second expression vector comprising a nucleic acid sequence encoding a post-translational modifying enzyme.

IC ICM C12N015-82
ICS A01H005-00
CC 6-1 (General Biochemistry)
Section cross-reference(s): 3, 11, 16

IT Proteins, specific or class
RL: BMF (Bioindustrial manufacture); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)
(**cell** cycle proteins; post-translational modification of recombinant proteins in **plants** by altering its natural modification abilities)

IT Gene, **plant**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(for N-acetylglucosamine transferase; post-translational modification of recombinant proteins in plants by altering its natural modification abilities)

IT Gene, **plant**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(for post-translational modifying enzyme; post-translational modification of recombinant proteins in plants by altering its natural modification abilities)

IT Alfalfa (Medicago sativa)

Barley
Cactus (Cactaceae)
Cereal (grain)
Corn
Daisy
Dicotyledon (Magnoliopsida)
Genetic vectors
Grass (Poaceae)
Iris (**plant**)
Lily (Lilium)
Maple (Acer)
Mint
Molecular cloning
Monocotyledon (Liliopsida)
Mutagenesis
Oak (Quercus)
Oat
Onion (Allium cepa)
Orchid (Orchidaceae)
Palm (Arecaceae)
Petunia
Phosphorylation, biological
Plant (Embryophyta)
Plant cell
Potato (Solanum tuberosum)
Prenylation
Protein degradation
Ranunculus
Rose (Rosa)
Seed
Soybean (Glycine max)
Squash (Cucurbita moschata)
Tobacco
Tomato
Vaccines
Viola
Walnut
Wheat
(post-translational modification of recombinant proteins in **plants** by altering its natural modification abilities)

IT Actins
Antibodies
Cytokines
Elastins
Epidermal growth factor receptors
Fibrinogens
Growth factor receptors
Growth factors, animal
Hemoglobins
Homing receptors
Immunoglobulins
Insulin receptors
Integrins
Interleukin 1
Interleukin 10
Interleukin 11
Interleukin 12
Interleukin 13
Interleukin 14
Interleukin 15

Interleukin 16
Interleukin 17
Interleukin 18
Interleukin 2
Interleukin 3
Interleukin 4
Interleukin 5
Interleukin 6
Interleukin 7
Interleukin 8
Interleukin 9
Leukemia inhibitory factor
Lymphotoxin
Myosins
Selectins
Tubulins
Tumor necrosis factors
RL: BMF (Bioindustrial manufacture); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); **PREP (Preparation)**; PROC (Process)
(post-translational modification of recombinant **proteins** in plants by altering its natural modification abilities)

IT TCR (T **cell** receptors)
RL: BMF (Bioindustrial manufacture); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)
(units; post-translational modification of recombinant proteins in **plants** by altering its natural modification abilities)

L14 ANSWER 10 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:265630 HCAPLUS
DOCUMENT NUMBER: 134:277583
TITLE: Cellulose films for screening
INVENTOR(S): Herbert, William; Chanzy, Henri Dominique; Ernst, Steffen; Schuelein, Martin; Husum, Tommy Lykke; Kongsbak, Lars
PATENT ASSIGNEE(S): Novozymes A/S, Den.
SOURCE: PCT Int. Appl., 89 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001025470	A1	20010412	WO 2000-DK536	20000929
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1222306	A1	20020717	EP 2000-962259	20000929
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
US 6426189	B1	20020730	US 2000-676713	20000929

US 2003049707 A1 20030313 US 2002-151658 20020520
PRIORITY APPLN. INFO.: DK 1999-1414 A 19991001
US 1999-157912P P 19991006
US 2000-676713 A3 20000929
WO 2000-DK536 W 20000929

AB The invention relates to a cellulose film comprising microfibrillated cellulose and to the use of it for screening of a biol. compd. The invention further relates to a cellulose film for screening for nucleic acids encoding a biol. compd. Bacterial cellulose microfibril films contg. fluorescein-labeled Hb or galactomannan were prepd. and used to detect proteases or mannases, resp.

IC ICM C12Q001-00
ICS C12Q001-68; C08L001-02

CC 9-1 (Biochemical Methods)
Section cross-reference(s): 1, 3, 7

IT Analytical apparatus
Animal tissue culture
Antibiotic resistance
Archaebacteria (Archaea)
Bacillus (bacterium genus)
Bacteria (Eubacteria)
Biochemical molecules
Cell
Ceramics
Concrete
Detergents
Drug screening
Escherichia coli
Eukaryote (Eukaryotae)
Films
Fluorometry
Fungi
Genetic vectors
Microtiter plates
Nucleic acid library
PCR (polymerase chain reaction)
Plant cell
Plasmids
Saccharomyces cerevisiae
Wood
(cellulose films for screening)

IT **Hemoglobins**
RL: ARG (Analytical reagent use); DEV (Device component use); SPN (Synthetic preparation); ANST (Analytical study); **PREP (Preparation)**; USES (Uses)
(conjugates, with FITC and reaction products with cellulose films; cellulose films for screening)

IT 9000-11-7DP, Carboxymethylcellulose, labeled with eosin 27072-45-3DP, FITC, conjugates with **Hb** and reaction products with cellulose films
RL: ARG (Analytical reagent use); DEV (Device component use); SPN (Synthetic preparation); ANST (Analytical study); **PREP (Preparation)**; USES (Uses)
(cellulose films for screening)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 11 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:698906 HCAPLUS
DOCUMENT NUMBER: 133:277801

TITLE: Purification of cytochrome b-561 from bean hypocotyls plasma membrane. Evidence for the presence of two heme centers
AUTHOR(S): Trost, P.; Berczi, A.; Sparla, F.; Sponza, G.; Marzadori, B.; Asard, H.; Pupillo, P.
CORPORATE SOURCE: Department of Biology, University of Bologna, Bologna, I-40126, Italy
SOURCE: Biochimica et Biophysica Acta (2000), 1468(1-2), 1-5
CODEN: BBACAQ; ISSN: 0006-3002
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The high-potential, ascorbate-reducible b-type cytochrome of plant plasma membranes, designated cytochrome b-561, was purified to homogeneity from etiolated bean hypocotyls. The pure protein migrated in denaturing electrophoresis as a broad band of .apprx.55 kDa mol. wt., and was found to be glycosylated. Optical redox titrns. of partially purified cytochrome b-561 indicated that it contained 2 hemes with similar spectral features, but distinct midpoint redox potentials (Em7 = +135 and +206 mV, resp.). The presence of 2 heme centers in cytochrome b-561 was consistent with its role in electron transfer across plant plasma membranes.

CC 6-3 (General Biochemistry)

IT Organ, **plant**
(hypocotyl; purifn. of cytochrome b-561 from bean hypocotyl plasma membrane and redox potentials of 2 heme centers)

IT 11130-51-1P, Cytochrome b 561
RL: PRP (Properties); PUR (Purification or recovery); **PREP (Preparation)**
(purifn. of cytochrome b-561 from bean hypocotyl plasma membrane and redox potentials of 2 **heme** centers)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 12 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:584024 HCAPLUS
DOCUMENT NUMBER: 134:25870
TITLE: Phytobilin biosynthesis: the Synechocystis sp. PCC 6803 heme oxygenase-encoding ho1 gene complements a phytochrome-deficient Arabidopsis thaliana hy1 mutant
AUTHOR(S): Willows, Robert D.; Mayer, Sandra M.; Foulk, Michael S.; DeLong, Alison; Hanson, Kimberly; Chory, Joanne; Beale, Samuel I.
CORPORATE SOURCE: Division of Biology and Medicine, Brown University, Providence, RI, 02912, USA
SOURCE: Plant Molecular Biology (2000), 43(1), 113-120
CODEN: PMBIDB; ISSN: 0167-4412
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The phytobilin chromophores of phycobiliproteins and phytochromes are biosynthesized from heme in a pathway that begins with the opening of the tetrapyrrole macrocycle of protoheme to form biliverdin IX.alpha., in a reaction catalyzed by heme oxygenase. An Arabidopsis thaliana hy1 mutant was previously shown to be deficient in phytochrome responses, and these responses were regained when the plants were administered biliverdin IX.alpha.. A heme oxygenase-encoding gene, ho1, was recently cloned from the cyanobacterium Synechocystis sp. PCC 6083. When ho1 was expressed in Escherichia coli, the cells produced active ferredoxin-dependent sol. heme oxygenase. The open reading frame of ho1 was fused in frame with a chloroplast transit peptide-encoding sequence from the oli gene of

Antirrhinum majus. This construct was placed in a binary plasmid vector contg. a kanamycin resistance marker and a cauliflower mosaic virus 35S promoter to control expression of the chimeric oli-ho1 gene and used to transform A. thaliana hy1 plants. Two independent transformed lines were obtained that had the phenotype of the parental Landsberg erecta line and expressed the chimeric gene, as indicated by detection of its mRNA by reverse transcriptase-polymerase chain reaction. The results indicate that Synechocystis sp. PCC 6803 heme oxygenase encoded by ho1 can substitute for the defective HY1 gene product and that the only required enzyme activity of the HY1 gene product is heme oxygenase.

CC 3-2 (Biochemical Genetics)
Section cross-reference(s): 7, 11

IT Gene, **plant**
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(oli; chimeric oli-ho1 gene, which contains chloroplast transit peptide-encoding sequence of Antirrhinum majus oli gene fused to Synechocystis PCC 6803 ho1 gene, used to transform phytochrome-deficient Arabidopsis thaliana hy1 mutant)

IT 9059-22-7P, **Heme** oxygenase
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); **PREP (Preparation)**
(Synechocystis sp. PCC 6803 **heme** oxygenase-encoding ho1 gene complements phytochrome-deficient Arabidopsis thaliana hy1 mutant)

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 13 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:191225 HCAPLUS
DOCUMENT NUMBER: 132:248008
TITLE: Production of enzymically active disulfide-containing proteins in genetically modified host with less reducing intracellular environment
INVENTOR(S): Welinder, Karen Gjesing; Ostergaard, Lars; Teilum, Kaare
PATENT ASSIGNEE(S): Kobenhavns Univ., Den.
SOURCE: PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000015804	A2	20000323	WO 1999-DK483	19990914
WO 2000015804	A3	20000525		

W: AE, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9955046	A1	20000403	AU 1999-55046	19990914

PRIORITY APPLN. INFO.: DK 1998-1154 A 19980914
WO 1999-DK483 W 19990914

AB The present invention relates to a recombinant host cell comprising a gene coding for a protein capable of having disulfide bonds, and genetically modified to have a less reducing intracellular environment as compared to a non-modified cell, and a process and kit for producing an enzymically active such peroxidase in such host cell. In a preferred embodiment, the cell has been modified to have a reduced or lacking activity of a thioredoxin reductase or an enzyme having a similar effect on the sulfhydryl reducing potential of the cytoplasm. Preferably, the gene codes for a peroxidase derived from a plant selected from the group consisting of a barley species, a soy bean species, a cruciferous species, such as horseradish and Arabidopsis thaliana, a Brassica species, rape, and a Solanaceae species. The process of producing an enzymically active peroxidase capable of having disulfide bonds comprises the steps of providing a cell as defined above, cultivating the cell under conditions where the gene is expressed, isolating the peroxidase, and optionally subjecting the isolated peroxidase to a folding treatment, e.g., under non-reducing conditions without altering the redox state, in the presence of reagents such as Ca2+, denaturing agent such as urea, heme, and a redox couple such as glutathione. The class III peroxidases, Arabidopsis thaliana peroxidase, ATP N and barley grain peroxidase BP 1 contg. four disulfide bonds, two Ca2+ ions, and a heme group were expressed in E. coli. The expression yield ranged from 0 to 60 .mu.g/mL of cell culture depending on the peroxidase gene and the vector/host combination. The choice of E. coli strain in particular affected the yield of active peroxidase obtained in the folding step. The yield of active ATP N peroxidase could be increased 50-fold by using thioredoxin reductase neg. E. coli strains, which facilitate the formation of disulfide bonds in inclusion body protein.

IC ICM C12N015-53
ICS C12N009-08

CC 7-6 (Enzymes)
Section cross-reference(s): 3, 11

IT Animal cell
Enterobacteriaceae
Eukaryote (Eukaryotae)
Fungi
Gram-negative bacteria
Gram-positive bacteria (Firmicutes)
Plant (Embryophyta)
Prokaryote
Pseudomonadaceae
(peroxidase expression host; prodn. of enzymically active disulfide-contg. proteins in genetically modified host with less reducing intracellular environment)

IT Arabidopsis thaliana
Barley
Brassica
Cruciferae (Brassicaceae)
Horseradish (Armoracia lapathifolia)
Rape (**plant**)
Solanaceae
Soybean (Glycine max)
(peroxidase source; prodn. of enzymically active disulfide-contg. proteins in genetically modified host with less reducing intracellular environment)

IT 57-13-6, Urea, biological studies 70-18-8, Glutathione, biological studies 14127-61-8, Ca2+, biological studies 14875-96-8, **Heme**
RL: BUU (Biological use, unclassified); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)
(peroxidase refolding with; **prodn**. of enzymically active

disulfide-contg. **proteins** in genetically modified host with less reducing intracellular environment)

L14 ANSWER 14 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:456781 HCAPLUS
DOCUMENT NUMBER: 131:224231
TITLE: The Arabidopsis thaliana HY1 locus, required for phytochrome-chromophore biosynthesis, encodes a protein related to heme oxygenases
AUTHOR(S): Davis, Seth J.; Kurepa, Jasmina; Vierstra, Richard D.
CORPORATE SOURCE: Laboratory of Genetics and the Cellular and Molecular Biology Program, University of Wisconsin, Madison, WI, 53706, USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1999), 96(11), 6541-6546
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The hy1 mutants of Arabidopsis thaliana fail to make the phytochrome-chromophore phytochromobilin and therefore are deficient in a wide range of phytochrome-mediated responses. Because this defect can be rescued by feeding seedlings biliverdin IX.alpha., it is likely that the mutations affect an enzyme that converts heme to this phytochromobilin intermediate. By a combination of positional cloning and candidate-gene isolation, the authors have identified the HY1 gene and found it to be related to cyanobacterial, algal, and animal heme oxygenases. Three independent alleles of hy1 contain DNA lesions within the HY1 coding region, and a genomic sequence spanning the HY1 locus complements the hy1-1 mutation. HY1 is a member of a gene family and is expressed in a variety of A. thaliana tissues. Based on its homol., the authors propose that HY1 encodes a higher-plant heme oxygenase, designated AtHO1, responsible for catalyzing the reaction that opens the tetrapyrrole ring of heme to generate biliverdin IX.alpha..
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 7, 11
IT Gene, **plant**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(HY1; Arabidopsis thaliana HY1 locus required for phytochrome-chromophore biosynthesis encodes a protein related to heme oxygenases)
IT Stress, **plant**
(light, moderate gene regulation by light; Arabidopsis thaliana HY1 locus required for phytochrome-chromophore biosynthesis encodes a protein related to heme oxygenases)
IT 114-25-0, Biliverdin IX.alpha.
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene encoding enzyme for **synthesis** of; Arabidopsis thaliana HY1 locus required for phytochrome-chromophore biosynthesis encodes a **protein** related to **heme** oxygenases)
REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 15 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:126800 HCAPLUS
DOCUMENT NUMBER: 130:178347
TITLE: Transformation of duckweed (Lemna) plants with ballistic bombardment, electroporation, or Agrobacterium vectors
INVENTOR(S): Stomp, Anne-Marie; Rajbhandari, Nirmala

PATENT ASSIGNEE(S): North Carolina State University, USA
SOURCE: PCT Int. Appl., 106 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9907210	A1	19990218	WO 1998-US16683	19980811
W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9887799	A1	19990301	AU 1998-87799	19980811
US 6040498	A	20000321	US 1998-132536	19980811
EP 1037523	A1	20000927	EP 1998-939350	19980811
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001513325	T2	20010904	JP 2000-506820	19980811

PRIORITY APPLN. INFO.: US 1997-55474P P 19970812
WO 1998-US16683 W 19980811

AB Methods and compns. are provided for the efficient transformation of duckweed by either ballistic bombardment, electroporation, or Agrobacterium. In this manner, any gene or nucleic acid of interest can be introduced and expressed in duckweed plants. Transformed duckweed plants, cells, tissues are also provided. Transformed duckweed plant tissue culture and methods of producing recombinant proteins and peptides from transformed duckweed plants are also disclosed.

IC ICM A01H004-00
ICS C12N005-04; C12N005-14; C12N015-82; C12N015-84
CC 3-2 (Biochemical Genetics)
Section cross-reference(s): 11
IT **Plant** tissue
(callus, transfection and regeneration; transformation of duckweed (Lemna) plants with ballistic bombardment, electroporation, or Agrobacterium vectors)
IT Collagens, preparation
Enzymes, preparation
Hemoglobins
p53 (protein)
RL: BPN (Biosynthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(cloning in duckweed; transformation of duckweed (Lemna) plants with ballistic bombardment, electroporation, or Agrobacterium vectors)
IT **Plant** tissue
(frond; transfection and regeneration; transformation of duckweed (Lemna) plants with ballistic bombardment, electroporation, or Agrobacterium vectors)
IT **Plant** tissue
(meristem, transfection and regeneration; transformation of duckweed (Lemna) plants with ballistic bombardment, electroporation, or Agrobacterium vectors)
IT Duckweed (Lemna)

Duckweed (Lemna gibba)
Duckweed (Lemna minor)
Duckweed (Lemna minuta)
Electroporation
Molecular cloning
Plant tissue culture
Spirodela
Transformation, genetic
Wolffia
Wolffiella
(transformation of duckweed (Lemna) plants with ballistic bombardment, electroporation, or Agrobacterium vectors)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 16 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:208373 HCAPLUS
DOCUMENT NUMBER: 128:240367
TITLE: Cloning and expression of vitreoscilla Hb protein genes in transgenic plants
INVENTOR(S): Bailey, James E.; Bulow, Leif
PATENT ASSIGNEE(S): Bailey, James E., Switz.; Bulow, Leif
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9812913	A1	19980402	WO 1997-US17246	19970925
W: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GE, GH, HU, ID, IL, IS, JP, KG, KP, KR, KZ, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, SL, TJ, TM, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5959187	A	19990928	US 1996-720260	19960926
AU 9745022	A1	19980417	AU 1997-45022	19970925
AU 730663	B2	20010308		
EP 955804	A1	19991117	EP 1997-943584	19970925
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001501098	T2	20010130	JP 1998-515914	19970925

PRIORITY APPLN. INFO.: US 1996-720260 A 19960926
WO 1997-US17246 W 19970925

AB The present invention relates to genetic-engineering of plants for enhanced oxygen assimilation and utilization. More particularly, this invention relates to producing transgenic plants engineered to express globin proteins such as, for example, Hb, myoglobin, and hemoproteins. The engineered plants of the invention achieve quicker germination, are faster growing or maturing crops, produce higher crop yields, and/or contain higher levels of desired plant metabolites, particularly alkaloids. The invention also relates to mutant Vitreoscilla Hb proteins, polynucleotides encoding the same, and host cells contg. such polynucleotides.

IC ICM A01H005-00
ICS C12N005-14; C12N015-31; C12N015-82

CC 3-4 (Biochemical Genetics)
Section cross-reference(s): 6, 11
IT Genetic engineering
Respiration, **plant**
Vitreoscilla
(cloning and expression of vitreoscilla Hb protein genes in transgenic plants)
IT Alkaloids, biological studies
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(enhanced **prodn.** of; cloning and expression of vitreoscilla **Hb protein** genes in transgenic plants)

L14 ANSWER 17 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:768789 HCAPLUS
DOCUMENT NUMBER: 128:85595
TITLE: Rice **hemoglobins**. Gene cloning, analysis, and O2-binding kinetics of a recombinant **protein synthesized** in Escherichia coli
AUTHOR(S): Arredondo-Peter, Raul; Hargrove, Mark S.; Sarath, Gautam; Moran, Jose F.; Lohrman, Joseph; Olson, John S.; Klucas, Robert V.
CORPORATE SOURCE: Department of Biochemistry, The Beadle Center, University of Nebraska, Lincoln, NE, 68588-0664, USA
SOURCE: Plant Physiology (1997), 115(3), 1259-1266
CODEN: PLPHAY; ISSN: 0032-0889
PUBLISHER: American Society of Plant Physiologists
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Although nonsymbiotic Hbs are found in different tissues of dicots and monocots, very little is known about hb genes in monocots and the function of Hbs in nonsymbiotic tissues. The authors report the cloning and anal. of two rice (Oryza sativa L.) hb genes, hb1 and hb2, that code for plant Hbs. Rice hb1 and hb2 genes contain four exons and three introns, as with all of the known plant hb genes. At least three copies of the hb gene were detected in rice DNA, and anal. of gene expression shows that hb1 and hb2 are expressed in leaves but only hb1 is expressed in roots. A cDNA for rice Hb1 was expressed in Escherichia coli, and the recombinant Hb (rHb1) shows an unusually high affinity for O2 because of a very low dissocn. const. The absorbance spectra of the ferric and deoxyferrous rHb1 indicate that, in contrast to symbiotic Hbs, a distal ligand is coordinated to the ligand-binding site. Mutation of the distal His demonstrates that this residue coordinates the heme Fe of ferric and deoxyferrous rHb1 and stabilizes O2 in oxy-rHb1. The biochem. properties of rice rHb1 suggest that this protein probably does not function to facilitate the diffusion of O2.
CC 6-3 (General Biochemistry)
Section cross-reference(s): 3, 11
IT Gene, **plant**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(hb1; sequence of rice Hb genes hb1 and hb2, differential expression of Hb1 and Hb2 in leaves and roots, and UV-visible spectra and ligand binding properties of recombinant Hb1)
IT Gene, **plant**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(hb2; sequence of rice Hb genes hb1 and hb2, differential expression of Hb1 and Hb2 in leaves and roots, and UV-visible spectra and ligand

binding properties of recombinant Hb1)
IT **Hemoglobins**
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); **PREP (Preparation)**; PROC (Process)
(sequence of rice **Hb** genes hb1 and hb2, differential expression of Hb1 and Hb2 in leaves and roots, and UV-visible spectra and ligand binding properties of recombinant Hb1)
IT 201061-11-2P, **Hemoglobin** 1 (Oryza sativa gene hb1)
201061-12-3P
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); **PREP (Preparation)**; PROC (Process)
(amino acid sequence; sequence of rice **Hb** genes hb1 and hb2, differential expression of Hb1 and Hb2 in leaves and roots, and UV-visible spectra and ligand binding properties of recombinant Hb1)

L14 ANSWER 18 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:403063 HCAPLUS
DOCUMENT NUMBER: 127:30134
TITLE: **Production** of **heme**-containing **proteins**, especially **hemoglobin**, with transgenic plants
INVENTOR(S): Bertrand, Merot; Wilfrid, Dieryck; Philippe, Lenee; Michael, Marden; Veronique, Gruber; Josee Pagnier, Renee; Sylvie, Baudino; Claude, Poyart
PATENT ASSIGNEE(S): Institut National de la Sante et de la Recherche Medicale INSERM, Fr.; Biocem
SOURCE: Fr. Demande, 87 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2736930	A1	19970124	FR 1995-8615	19950717
FR 2736930	B1	19970919		
WO 9704115	A2	19970206	WO 1996-FR1123	19960717
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA				
AU 9666190	A1	19970218	AU 1996-66190	19960717
EP 839204	A2	19980506	EP 1996-925810	19960717
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6344600	B1	20020205	US 1998-983564	19980609

PRIORITY APPLN. INFO.: FR 1995-8615 A 19950717
WO 1996-FR1123 W 19960717

AB Transgenic plants expressing genes for heme-contg. proteins are capable of producing functional heme-contg. proteins. The process, recombinant vectors and plant cells and transgenic plants, and the protein product which may be used, in the case of human Hb, as Hb replacement, are

claimed. Using the double 35S promoter, 1% of the total plant protein is expected to be Hb. Based on 10% of total dry matter being Hb, harvesting 1 ton dry tobacco leaves per ha, and assuming only 10% recovery of the Hb, it should be possible to produce 100 g Hb/ha. Spectral characteristics of the Hb produced with transgenic tobacco were judged to be very similar to that of normal human Hb.

IC ICM C12N015-12
ICS C07K014-805; A61K038-42

CC 3-2 (Biochemical Genetics)
Section cross-reference(s): 11, 62, 63

ST **protein heme** contg **prodn** transgenic plant; **Hb prodn** transgenic tobacco

IT Cosmetics
(**heme**-contg. **proteins** for use in; **prodn**. of **heme**-contg. **proteins**, esp. **Hb**, with transgenic plants)

IT Seed
(of transgenic plant; **prodn**. of **heme**-contg. **proteins**, esp. **Hb**, with transgenic plants)

IT Plasmids
(pBIOC46, human .alpha. globin gene on; **prodn**. of **heme**-contg. **proteins**, esp. **Hb**, with transgenic plants)

IT Plasmids
(pBIOC47, human .beta. globin gene on; **prodn**. of **heme** -contg. **proteins**, esp. **Hb**, with transgenic plants)

IT Plasmids
(pBIOC49, human .alpha. and .beta. globin genes on; **prodn**. of **heme**-contg. **proteins**, esp. **Hb**, with transgenic plants)

IT Plasmids
(pBIOC53, human .alpha. and .beta. globin genes on; **prodn**. of **heme**-contg. **proteins**, esp. **Hb**, with transgenic plants)

IT Plasmids
(pBIOC59, human .alpha. and .beta. globin genes on; **prodn**. of **heme**-contg. **proteins**, esp. **Hb**, with transgenic plants)

IT Molecular cloning
(**prodn**. of **heme**-contg. **proteins**, esp. **Hb**, with transgenic plants)

IT Hemoproteins
Myoglobins
RL: BPN (Biosynthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**prodn**. of **heme**-contg. **proteins**, esp. **Hb**, with transgenic plants)

IT **Hemoglobins**
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(**prodn**. of **heme**-contg. **proteins**, esp. **Hb**, with transgenic plants)

IT Chimeric gene
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(**prodn**. of **heme**-contg. **proteins**, esp. **Hb**, with transgenic plants)

IT **Plant cell**
(recombinant; **prodn**. of **heme**-contg. **proteins**, esp. **Hb**, with transgenic **plants**)

IT **Plant** (Embryophyta)
Tobacco
(transgenic; **prodn.** of **heme**-contg. **proteins**
, esp. **Hb**, with transgenic plants)

L14 ANSWER 19 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:200805 HCAPLUS
DOCUMENT NUMBER: 124:280606
TITLE: Induction of a novel cytochrome P450 (CYP93 family) by methyl jasmonate in soybean suspension-cultured cells
AUTHOR(S): Suzuki, Genki; Ohta, Hiroyuki; Kato, Tomohiko; Igarashi, Takao; Sakai, Fukumi; Shibata, Daisuke; Takano, Atuo; Masuda, Tatsuru; Shioi, Yuzo; et al.
CORPORATE SOURCE: Department of Biological Sciences, Faculty of Bioscience and Biotechnology, Tokyo Institute of Technology, Nagatsuta, Midori-ku, Yokohama, 226, Japan
SOURCE: FEBS Letters (1996), 383(1,2), 83-6
CODEN: FEBLAL; ISSN: 0014-5793
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors isolated a cDNA encoding a novel cytochrome P 450 (CYP93A1) from soybean suspension-cultured cells that had been treated with Me jasmonate (MeJA). The amino acid sequence of the gene product had 30-40% identity with those of other plant P450s. The protein contained the heme-binding domain which is highly conserved among plant P450s. Transcription of the cytochrome P 450 gene in soybean cells was induced by 30 .mu.M MeJA even in the presence of cycloheximide, and reached max. level 6 h after MeJA treatment. This is the first report of a plant cytochrome P 450 gene whose transcription is induced by MeJA even without protein synthesis.
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 7, 11
IT Gene, **plant**
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(for cytochrome P 450; first report of plant cytochrome P 450 gene whose transcription is induced by Me jasmonate even without protein synthesis)
IT 175896-52-3, Cytochrome P 450 (soybean clone G9)
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); PRP (Properties); BIOL (Biological study); FORM (Formation, nonpreparative)
(contg. **heme**-binding domain; first report of plant cytochrome P 450 gene whose transcription is induced by Me jasmonate even without **protein synthesis**)

L14 ANSWER 20 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:260030 HCAPLUS
DOCUMENT NUMBER: 122:29883
TITLE: Cell free system for protein synthesis and use of chaperone proteins therein
INVENTOR(S): Kudlicki, Wieslaw; Kramer, Gisela; Hardesty, Boyd
PATENT ASSIGNEE(S): Research Development Foundation, USA
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9424303	A1	19941027	WO 1994-US3860	19940408
W: AU, CA, CN, FI, JP, KR, NO, NZ, RU, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
ZA 9402335	A	19951005	ZA 1994-2335	19940407
CA 2159899	AA	19941027	CA 1994-2159899	19940408
AU 9466288	A1	19941108	AU 1994-66288	19940408
AU 693443	B2	19980702		
EP 693131	A1	19960124	EP 1994-914083	19940408
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08508651	T2	19960917	JP 1994-523319	19940408

PRIORITY APPLN. INFO.:
US 1993-45445 19930408
US 1994-219971 19940404
WO 1994-US3860 19940408

AB The present invention provides a novel high efficiency method for the cell-free engineering and synthesis of proteins. A novel method of the present invention comprises the steps of: prepg. a cell-free ext., sepg. out a ribosome fraction from said ext., incubating said ribosome fraction in the presence of a transcription/translation medium, and measuring the amt. of protein synthesized. The method of the present invention may be used as a coupled transcription/translation system, a translation only system, or a cell-free continuous flow system. Also provided are methods for synthesis of proteins and their correct folding using chaperone proteins.

IC ICM C12P021-00

CC 16-4 (Fermentation and Bioindustrial Chemistry)

IT **Hemoglobins**
RL: BMF (Bioindustrial manufacture); BIOL (Biological study); **PREP (Preparation)**
(.beta.-globins; continuous cell-free system for **protein synthesis**)

IT Virus, **plant**
(tobacco necrosis, satellite; continuous **cell**-free system for protein synthesis)

L14 ANSWER 21 OF 26 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1994:451491 HCAPLUS
DOCUMENT NUMBER: 121:51491
TITLE: Multicistronic expression units and their use in production of multimeric proteins with recombinant cells
INVENTOR(S): Dirks, Wilhelm; Wirth, Manfred; Hauser, Hansjoerg; Eichner, Wolfram; Achterberg, Volker; Doerschner, Albrecht; Meyer-Ingold, Wolfgang; Mielke, Heiko
PATENT ASSIGNEE(S): Beiersdorf A.-G., Germany; Gesellschaft fuer Biotechnologische Forschung mbH
SOURCE: PCT Int. Appl., 110 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9405785	A1	19940317	WO 1993-EP2294	19930826
W: AU, BR, CA, HU, JP, KZ, PL, RU, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 4228458	A1	19940601	DE 1992-4228458	19920827

AU 9349537	A1	19940329	AU 1993-49537	19930826
EP 658198	A1	19950621	EP 1993-919176	19930826
EP 658198	B1	19990127		
R: DE, DK, ES, FR, GB, IT				
JP 08502644	T2	19960326	JP 1993-506831	19930826
ES 2127831	T3	19990501	ES 1993-919176	19930826

PRIORITY APPLN. INFO.: DE 1992-4228458 A 19920827
WO 1993-EP2294 W 19930826

AB Multicistronic expression units p-5'UTR-C1-(IRES-Y-C2)n-3'UTR-polyA (p-promoter; 5'- and 3'UTR=untranslated sequences preceding or following genes, resp.; C1, C2=cistrons encoding subunits of a multimeric protein, or unrelated proteins; IRES=internal ribosome entry sequence; Y=a sequence which, in concert with IRES, increases expression of C2) allow the equimolar expression of the genes located in the corresponding cistrons. These expression units are particularly suitable for the recombinant prodn. of proteins composed of 2 or more polypeptide subunits. BHK cells contg. a bicistronic plasmid were used to prep. platelet-derived growth factor AB heterodimer. The expression vector consisted of an SV40 promoter linked to the PDGF A gene, and a fragment of the Zenopus laevis .beta.-globin gene (to enhance translation) followed by a poliovirus 5'UTR (providing an IRES) and the PDGF B gene.

IC ICM C12N015-12
ICS C12N015-63; C12N015-67; C12N015-85; C07K013-00; A61K037-02

CC 3-2 (Biochemical Genetics)

IT **Hemoglobins**
RL: BIOL (Biological study)
(translation-enhancing sequence of Xenopus gene for, multicistronic expression units contg., for **prodn**. of multimeric **proteins** with recombinant cells)

IT Virus, **plant**
(tobacco mosaic, translation-enhancing sequence of 5'UTR of, multicistronic expression units contg., for prodn. of multimeric proteins with recombinant **cells**)

IT Virus, **plant**
(turnip yellow mosaic, translation-enhancing sequence of 5'UTR of, multicistronic expression units contg., for prodn. of multimeric proteins with recombinant **cells**)

L14 ANSWER 22 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:486760 HCAPLUS
DOCUMENT NUMBER: 115:86760
TITLE: Enhancement of cell growth by expression of a cloned hemoglobin gene
INVENTOR(S): Bailey, James E.; Khosla, Chaitan S.
PATENT ASSIGNEE(S): California Institute of Technology, USA
SOURCE: PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9106641	A1	19910516	WO 1990-US6083	19901026
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
CA 2072149	AA	19910501	CA 1990-2072149	19901026
AU 9067104	A1	19910531	AU 1990-67104	19901026
AU 653922	B2	19941020		

EP 500652 A1 19920902 EP 1990-916627 19901026
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE
JP 05503002 T2 19930527 JP 1990-515634 19901026
ZA 9008689 A 19911127 ZA 1990-8689 19901030
PRIORITY APPLN. INFO.: US 1989-429093 19891030
WO 1990-US6083 19901026

AB Protein prodn. in cells contg. a chimeric gene contg. a promoter responsive to O is controlled by O levels. The promoter may be that of the Hb gene of Vitreoscilla. Expression of this Hb gene in cells increases the growth yield, growth rate, and cell d. and increases the prodn. of proteins, biopolymers, and other metabolic products by these cells. Cells producing this Hb can be used to supply O or to remove O from their environment. The control of expression of genes fused to the Vitreoscilla Hb gene promoter by O levels, cAMP-CAP complex, and N levels was examd. in Escherichia coli. Enhancement of heterologous protein prodn. by recombinant E. coli expressing the Hb gene was demonstrated.

IC ICM C12N015-00
ICS C12N015-31; C12N001-00; A61L009-01

CC 3-4 (Biochemical Genetics)
Section cross-reference(s): 16

ST **protein prodn** recombinant cell oxygen; **Hb** gene promoter Vitreoscilla; growth cell Vitreoscilla **Hb**

IT Vitreoscilla
(**Hb** gene of, promoter of, **protein manuf.** with recombinant cells using, **Hb** enhancement of yield of)

IT Insect
(cell, **protein manuf.** with, enhancement of, Vitreoscilla **Hb** gene expression in)

IT **Hemoglobins**
RL: BIOL (Biological study)
(gene for, of Vitreoscilla, promoter of, **protein manuf.** with recombinant cells using, **Hb** enhancement of yield of)

IT **Proteins, preparation**
RL: BMF (Bioindustrial manufacture); BIOL (Biological study); **PREP (Preparation)**
(**manuf.** of, with recombinant cells, promoter of Vitreoscilla **Hb** gene and Vitreoscilla **Hb** in)

IT Animal cell
Plant cell
(**protein manuf.** with, enhancement of, Vitreoscilla **Hb** gene expression in)

IT 123211-84-7, Deoxyribonucleic acid (Vitreoscilla clone pRED2 **hemoglobin** gene) 124860-92-0, Deoxyribonucleic acid (Vitreoscilla clone pRED2 **hemoglobin** gene plus 5'- and 3'-flanking region fragment)
RL: PRP (Properties)
(expression of, in recombinant cells, enhanced **protein manuf.** in relation to)

L14 ANSWER 23 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1986:165490 HCAPLUS
DOCUMENT NUMBER: 104:165490
TITLE: Site of heme synthesis in cultured peanut cells
AUTHOR(S): Chibbar, Ravindra N.; Van Huystee, Robert B.
CORPORATE SOURCE: Dep. Plant Sci., Univ. West. Ontario, London, ON, N6A 5B7, Can.
SOURCE: Phytochemistry (1986), 25(3), 585-7
CODEN: PYTCAS; ISSN: 0031-9422
DOCUMENT TYPE: Journal

LANGUAGE: English
AB Cationic peroxidase is the major hemoprotein secreted by cultured peanut cells as detd. by immunopptn. The heme moiety of cationic peroxidase has been identified as protoheme, based on results obtained by mass spectrometry. By incubating the cultured cells with [14C]-.delta.-aminolevulinic acid and subsequently isolating the mitochondria and amyloplasts from these cells, it has been shown that mitochondria are the site of synthesis of heme in these cells.
CC 11-2 (Plant Biochemistry)
IT **Plant** tissue culture
(suspension, heme formation by peanut in, mitochondria in)
IT 9003-99-0P
RL: **PREP (Preparation)**
(cationic, formation by cultured peanut cells, site of **heme** formation in)

L14 ANSWER 24 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1985:2925 HCAPLUS
DOCUMENT NUMBER: 102:2925
TITLE: Tissue culture medium
INVENTOR(S): Carpenter, Charles R.; Cone, Robert O., Jr.
PATENT ASSIGNEE(S): AMF Inc., USA
SOURCE: U.S., 29 pp. Cont.-in-part of U.S. Ser. No. 238,686, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4473647	A	19840925	US 1982-349691	19820217
CA 1199578	A1	19860121	CA 1982-397226	19820226
JP 58500273	T2	19830224	JP 1982-501351	19820301
DK 8204748	A	19821026	DK 1982-4748	19821026
NO 8203573	A	19821027	NO 1982-3573	19821027

PRIORITY APPLN. INFO.: US 1981-238686 19810227
US 1982-349691 19820217
WO 1982-US247 19820301

AB A natural bovine serum-derived serum which has low lipid levels and may addnl. have similar globulin and albumin profile as fetal calf serum, as well as controlled levels of Hb, enveloped viruses, steroid hormones, mycoplasma, cholesterol, triglycerides and pesticides, is useful for the promotion of growth of animal and plant cells in tissue culture. For example, bovine serum was treated with fumed silica, e.g., Aerosil, and activated charcoal, and used for animal tissue culture. This bovine serum prepn. is useful for replacing fetal calf serum which is expensive and is in short supply.
IC C12N005-00; C12N001-38; A61K035-16; C07G007-00
NCL 435240000
CC 9-10 (Biochemical Methods)
IT Animal tissue culture
Plant tissue culture
(blood serum prepd. for)
IT Albumins, blood serum
Glycerides, biological studies
Hemoglobins
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(in bovine blood serum, adjustment of, for animal tissue culture medium

prepn.)

L14 ANSWER 25 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1981:98539 HCAPLUS
DOCUMENT NUMBER: 94:98539
TITLE: Hemoglobin-digesting acid proteinases in soybean leaves. Characteristics and changes during leaf maturation and senescence
AUTHOR(S): Ragster, La Verne E.; Chrispeels, Maarten J.
CORPORATE SOURCE: Dep. Biol., Univ. California, La Jolla, CA, 92093, USA
SOURCE: Plant Physiology (1981), 67(1), 110-14
CODEN: PLPHAY; ISSN: 0032-0889
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Three proteinases (I, II, and III) which digest Hb rapidly at acid pH (3.5-4.5) were identified in crude exts. of soybean leaves and sepd. All 3 enzymes were endopeptidases as judged by the ratio .alpha.-amino group plus peptide N to .alpha.-amino group N in the trichloroacetic acid-sol. portion of Hb digests. Proteinase I did not bind to DEAE-cellulose and was not inhibited by any of the proteinase inhibitors tested. Proteinase II was partially inhibited by phenylmethylsulfonyl fluoride, N-ethylmaleimide, and p-chloromercuribenzoate. The inhibition by phenylmethylsulfonyl fluoride can probably be accounted for the presence of contaminating carboxypeptidase activity. Proteinase III was the most anionic of the 3 proteinases and required the presence of thiols to prevent irreversible loss of activity. All of the proteinase prepns. digested soybean ribulose diphosphate carboxylase. The 3 proteinases were present throughout leaf development: proteinase I predominated in expanding leaves, whereas proteinase III became the predominant enzyme as the leaves matured. Senescence (yellowing) was assocd. with a decline in the activities of all 3 proteinases.
CC 7-2 (Enzymes)
Section cross-reference(s): 11
IT **Plant** growth and development
(acid proteinases of soybean leaves in)
IT 59793-99-6P
RL: **PREP (Preparation)**
(**Hb**-degrading, of soybean leaves, multiple forms of, purifn. and properties of)

L14 ANSWER 26 OF 26 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1968:26909 HCAPLUS
DOCUMENT NUMBER: 68:26909
TITLE: Effect of homologous and heterologous polynucleotides on cell-free hemoglobin biosynthesis
AUTHOR(S): Arnstein, Henry R. V.
CORPORATE SOURCE: King's Coll., London, UK
SOURCE: Regul. Nucleic Acid Protein Biosynth., Proc. Int. Symp. (1967), Meeting Date 1966, 187-95
CODEN: 18ALA8
DOCUMENT TYPE: Conference
LANGUAGE: English
AB The existence of messenger RNA (mRNA) for the formation of hemoglobin (Hb) was demonstrated, as was its ability to initiate the cell-free synthesis of Hb. This form of mRNA could be extd. from rabbit reticulocyte ribosomes. Much of it was assocd. with ribosomal RNA, but a small proportion occurred as free mRNA with a sedimentation coeff. of 10-14 S. In cell-free synthesis of protein by reticulocyte ribosomes, homologous RNA stimulated synthesis of both ribosomal and sol. proteins. RNA from rabbit liver increased the release of sol. protein, but RNA from ascites

or turnip yellow mosaic virus (TYMV) did not have this effect. Tobacco mosaic virus RNA inhibited the protein synthesis. Other data on the effects of different forms of RNA on cell-free protein synthesis are also given. The ribosome binding sites of TYMV RNA may consist of specific nucleotide sequences and not simply of the 5'-OH terminus where translation starts. Data are given on incorporation of threonine and valine into protein by the systems tested. 35 references.

CC 2 (General Biochemistry)

ST **PROTEIN SYNTHESIS** RNA; RIBOSOMES RNA **PROTEINS** ; RNA **HB** BIOSYNTHESIS; **HEMOGLOBIN** BIOSYNTHESIS; BIOSYNTHESIS **HEMOGLOBIN**

IT Viruses, **plant**
(turnip yellow mosaic, ribonucleic acid of, in hemoglobin formation by reticulocytes)

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=> fil wpid
FILE 'WPIDS' ENTERED AT 14:25:47 ON 24 MAR 2003
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FILE LAST UPDATED:          20 MAR 2003      <20030320/UP>
MOST RECENT DERWENT UPDATE:     200319        <200319/DW>
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    GUIDES, PLEASE VISIT:
    http://www.derwent.com/userguides/dwpi_guide.html <<<

=> d que l5
L1          4461 SEA FILE=WPIDS ABB=ON  PLU=ON  HAEME OR HAEM OR HEMOGLOBIN# OR
                 HEAMOGLOBIN#
L2          2154 SEA FILE=WPIDS ABB=ON  PLU=ON  L1 (L) (PREP? OR MANUF? OR MFG#
                 OR MFR## OR PRODN OR PRODUC? OR SYNTHE?)
L3        222647 SEA FILE=WPIDS ABB=ON  PLU=ON  PLANT#
L4            73 SEA FILE=WPIDS ABB=ON  PLU=ON  L2 AND L3
L5            36 SEA FILE=WPIDS ABB=ON  PLU=ON  L4 AND PROTEIN#


=> d bib ab l5 1-36

L5   ANSWER 1 OF 36  WPIDS (C) 2003 THOMSON DERWENT
AN   2003-167400 [16]   WPIDS
DNC  C2003-043527
TI   New nucleic acid constructs comprising a transcriptional regulatory
     element, first and second coding regions, and an internal ribosome entry
     site element, useful for transiently or stably expressing active
     biomolecules in plants.
DC   B04 C06 D16
IN   BASCOMB, N; BOSSIE, M; HALL, G
PA   (ICON-N) ICON GENETICS INC
CYC  100
PI   WO 2002101006 A2 20021219 (200316)* EN   20p
        RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
            NL OA PT SD SE SL SZ TR TZ UG ZM ZW
         W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
            DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
            KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
            RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM
            ZW
ADT  WO 2002101006 A2 WO 2002-US17927 20020607
PRAI US 2001-297103P  20010608
AB   WO2002101006 A UPAB: 20030307
     NOVELTY - Nucleic acid construct comprising the following elements
     functional in a plant cell and operably linked from 5' to 3':
          (a) a transcriptional regulatory element;
          (b) a first coding region encoding a first polypeptide;
          (c) an internal ribosome entry site (IRES) element; and
```

(d) a second coding region encoding a second polypeptide.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) an nucleic acid construct for expressing an exogenous multi-subunit polypeptide in a host **plant** cell, comprising a sequence encoding a polycistronic mRNA encoding a exogenous multi-subunit **protein**, where the exogenous polypeptide is not naturally expressed in the host **plant** cell;

(2) an nucleic acid construct for expressing a polypeptide in a **plant** cell comprising a sequence encoding a polycistronic mRNA encoding a single chain T Cell Receptor, single chain MHC molecule, a single chain **protein** of the immunoglobulin superfamily or its fusions;

(3) a composition comprising a first expression unit containing the nucleic acid constructs above, and a second expression unit comprising a third coding region operably linked to a promoter or IRES element;

(4) a **plant** or its portion comprising a nucleic acid construct above;

(5) producing a host **plant** cell capable of expressing an exogenous **protein** not naturally produced in the **plant** cell by introducing the nucleic acid construct above into the host **plant** cell;

(6) a host **plant** or its portion comprising at least one cell containing a nucleic acid encoding a polycistronic mRNA encoding a exogenous multi-subunit **protein**, or an inactive polypeptide capable of being modified to an active form and a processing **protein** for processing the inactive **protein** to the active form, where the exogenous **protein** is not naturally expressed in the host **plant**;

(7) producing a host **plant** cell capable of expressing an exogenous multi-subunit **protein** not naturally expressed in a host **plant** cell by expressing a nucleic acid encoding a polycistronic mRNA encoding the multi-subunit **protein** in the **plant** cell; and

(8) producing an active form of an exogenous **protein** in a **plant** by expressing a nucleic acid encoding a polycistronic mRNA encoding an inactive polypeptide capable of being modified in an active form and a processing **protein** for processing the inactive **protein** to the active form.

USE - The constructs are useful for producing **proteins** in **plants**, particularly **proteins** that in their native state require the coordinate expression of several structural genes to become biologically active, and the products typically possess therapeutic, diagnostic or industrial utility. The genetic constructs are also useful for either transient or stable expression in **plants** and in **plant** cells, and result in expression of active biomolecules not endogenously produced by a **plant**.

Dwg.0/11

L5 ANSWER 2 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2003-142456 [14] WPIDS
DNC C2003-036472
TI Using cells that can prenylate **proteins** for replication and production of hepatitis C virus (HCV), useful for screening compounds for anti-HCV activity.
DC B04 D16
IN DUBUISSON, J; DUVERLIE, G; PILLEZ, A; WYCHOWSKI, C
PA (CNRS) CNRS CENT NAT RECH SCI; (CNRS) CENT NAT RECH SCI
CYC 100
PI FR 2824072 A1 20021031 (200314)* 85p
WO 2002088338 A2 20021107 (200314) FR

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

ADT FR 2824072 A1 FR 2001-5732 20010427; WO 2002088338 A2 WO 2002-FR1422 20020425

PRAI FR 2001-5732 20010427

AB FR 2824072 A UPAB: 20030227

NOVELTY - Use of cells (A) able to cause prenylation of **proteins** encoded by the genome of hepatitis C virus (HCV), such as NS5A **protein**, for replication, and optionally **production**, of HCV or its derived viable mutants, in an appropriate culture medium, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a 6609, 9622, or 8451 base pair sequence (S1), given in the specification;

(2) recombinant vector, particularly a plasmid, cosmid, phage or DNA virus, containing a sequence of (1);

(3) host cell (bacterium, virus, yeast, fungus, **plant** or mammalian) transformed with the vector of (2);

(4) vero/G418 cell transformed with nucleic acid that:

(a) encodes HCV structural and non-structural **proteins**;

(b) encodes HCV non-structural **proteins**; or

(c) is a replicon containing a gene for resistance to an antibiotic, particularly hygromycin B (**HB**) and a sequence encoding HCV structural **proteins**;

(5) **producing** HCV by infecting Vero/G418 cells;

(6) replication of HCV by transforming Vero/G418 cells with (S1);

(7) **producing** HCV by transforming Vero/G418 cells with nucleic acid encoding structural and non-structural HCV **proteins**;

(8) screening for anti-HCV agents; and

(9) **producing** cells of (4).

ACTIVITY - Virucide; Hepatotropic; Antiinflammatory.

No biological data is given.

MECHANISM OF ACTION - Inhibition of prenylation, which is essential for HCV replication.

USE - (A) are used to **produce** HCV particles, and to screen for anti-HCV agents (claimed). Inhibitors of prenylation are useful for treating HCV infection.

ADVANTAGE - (A) contain all the cellular factors required for replication of the HCV genome.

Dwg.0/5

L5 ANSWER 3 OF 36 WPIDS (C) 2003 THOMSON DERWENT

AN 2003-058279 [05] WPIDS

DNC C2003-014798

TI A novel nucleic acid molecule for treating infection by Porphyromonas gingivalis, has a non-naturally occurring nucleotide sequence encoding a polypeptide having hemoglobin receptor activity and/or a non-coding sequence.

DC B04 D16

IN COLLYER, C A; HUNTER, N; LANGLEY, D B

PA (UNSY) UNIV SYDNEY

CYC 100

PI WO 2002061091 A1 20020808 (200305)* EN 115p

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

ADT WO 2002061091 A1 WO 2002-AU102 20020201

PRAI AU 2001-2825 20010201

AB WO 200261091 A UPAB: 20030121

NOVELTY - A nucleic acid molecule (I) comprising a non-naturally occurring nucleotide sequence comprising a coding region comprising a contiguous sequence of codons which encode a polypeptide and optionally contiguous sequence(s) of nucleotides corresponding to non-coding regions, where codon(s) in coding region or nucleotide(s) in non-coding region are selected, upon expression, to **produce** a higher level of polypeptide in a cell, is new.

DETAILED DESCRIPTION - (I) comprises a non-naturally occurring nucleotide sequence comprising, in a particular reading frame, a coding region comprising a contiguous sequence of codons which encode a polypeptide, and optionally one or more contiguous sequences of nucleotides corresponding to non-coding regions, where one or more codons in the coding region or one or more nucleotides in the non-coding region are selected, upon expression, to **produce** a higher level of the polypeptide in a particular host cell or in vitro expression system relative to the corresponding sequence in the naturally occurring nucleotide.

INDEPENDENT CLAIMS are also included for the following:

(1) constructing (M1) (I), by constructing in a particular reading frame, a coding region comprising a contiguous sequence of codons which encode a polypeptide, and optionally one or more contiguous sequences of nucleotides corresponding to non-coding regions as above; and

(2) prophylaxis or treatment (M2) of infection by a microorganism in a mammal, the microorganism substantially requiring exogenous iron, heme or porphyrin for growth or maintenance, by administering to the mammal an agent for a time and under conditions sufficient to antagonize the interaction between a molecule derived from the microorganism and with an HA2 domain or subdomain and an HA2-binding moiety on a porphyrin containing molecule such as but not limited to **hemoglobin** or its precursor form or portion such as heme and where the HA2 domain or subdomain comprises:

(a) an amino acid sequence substantially encoded by the nucleotide sequence (S1) of 405 bp given in the specification or a nucleotide sequence having at least 40% similarity or capable of hybridizing to (S1) or its complement under low stringency conditions; and/or

(b) a sequence (S2) of 135 amino acids given in the specification or a sequence having at least 40% similarity or 20% identity after optimum alignment with (S2), where the amino acid sequence is capable of interacting with an HA2-binding motif on a porphyrin-containing molecule, where the polypeptide or **protein** is expressed from (I). The HA2-binding motif comprises a moiety structurally or functionally homologous to substructure (Ic) of formula (A).

(A) where:

R1 and R6 = same or different and each is an alkyl such as a methyl, ethyl or propyl group, or hydrogen, hydroxyl, carboxyl, aldehyde, acetaldehyde or keto group;

M = metal ion in various oxidation states (such as Fe, Fe2+, Fe3+) and is optionally present;

n = 0 or 1

ACTIVITY - Antibacterial.

No suitable data given.
MECHANISM OF ACTION - Vaccine.
USE - (I) is useful for **producing** a polypeptide having HbR activity that is conformationally and chemically pure and of uniform activity, and for **producing** an immune response in an animal or a human (claimed). (I) is useful in the **manufacture** or selection of a medicament for the treatment or prophylaxis of infection by P.gingivalis or related organism in biological environments from where microorganisms acquire iron, heme or porphyrin for growth. P.gingivalis or related microorganism infection include infection of the oral cavity, nasopharynx, oropharynx, vagina and urethra as well as infection of mucosal membranes and infection of hooves of livestock animals such as sheep, cattle and goats.
Dwg.0/9

L5 ANSWER 4 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-588599 [63] WPIDS
DNN N2002-466933 DNC C2002-166600
TI Enhancing expression of a silenced target sequence in a **plant** cell, e.g. for producing desired peptides or **proteins**, comprises using a gene silencer and an amplicon in combination with an enhancer sequence.
DC C06 D16 P13
IN VANCE, V B
PA (UYSC-N) UNIV SOUTH CAROLINA
CYC 1
PI US 6395962 B1 20020528 (200263)* 11p
ADT US 6395962 B1 US 1999-338397 19990622
PRAI US 1999-338397 19990622
AB US 6395962 B UPAB: 20021001
NOVELTY - Enhancing expression of silenced target sequence (TS) in a **plant** cell, comprises introducing a DNA construct having an enhancer that suppresses gene silencing into a **plant** cell which has an amplicon comprising a targeting sequence which co-suppresses TS and a viral sequence which confers the ability to replicate.
DETAILED DESCRIPTION - Enhancing expression of silenced target sequence (TS) in a **plant** cell, comprises:
(a) providing a **plant** cell comprising an amplicon (I) integrated into its genome, that comprises a targeting sequence which co-suppresses TS and a viral sequence which confers on the transcript of the amplicon the ability to replicate in the cytoplasm; and
(b) introducing into the **plant** cell a DNA construct comprising a **plant** viral enhancer that suppresses gene silencing, operably linked to a promoter that drives expression in the **plant** cell, where expression of the enhancer results in expression of TS, and TS is expressed at a higher level than in the absence of the amplicon and enhancer.
INDEPENDENT CLAIMS are included for the following:
(1) a **plant** cell or **plant** (II) comprising a DNA construct comprising a **plant** viral enhancer that suppresses gene silencing operably linked to a promoter that drives expression in the **plant** cell, and (I) having the ability to replicate following transcription, where the targeting sequence corresponds to a desired TS in the **plant** cell and TS is expressed at a higher level than in **plant** cells that do not comprise the amplicon and enhancer; and
(2) a seed (III) of (II), comprising DNA construct and amplicon.
ACTIVITY - Agricultural; Antiinsecticidal. No suitable biological data is given.
MECHANISM OF ACTION - Gene therapy.
USE - The method is useful for enhancing expression of a silenced TS

(exogenous or endogenous **plant** sequence) in a **plant** cell. The endogenous **plant** sequences are those involved in agronomic traits, disease resistance, herbicide resistance or grain characteristics, or genes responsible for the **synthesis** of **proteins**, peptides, fatty acids, lipids, waxes, oils, starches, sugars, carbohydrates, flavors, odors, toxins, carotenoids, hormones, polymers, flavonoids, storage **proteins**, phenolic acids, alkaloids, lignins, tannins, celluloses, glycoproteins, and glycolipids, and the exogenous **plant** sequence is retinoblastoma **protein**, p53, angiostatin, leptin, hormones, growth factors, cytokines, insulin, growth hormone, alpha-interferon, beta -glucocerebrosidase, serum albumin, **hemoglobin** or collagen (claimed). The method is useful for modulating the expression of a target gene or sequence in **plants**, transformed **plants**, **plant** cells and tissues and seeds, for **producing** desired peptides or **proteins**, such as mammalian regulatory **proteins** e.g. human serum albumin, **hemoglobin**, collagen. The method is also useful for expressing disease and insect resistance genes in the **plant** which is useful for enhanced disease resistance in a **plant**, and for **producing** transgenic seed and seed **products** especially seed **proteins** e.g. starches, storage **proteins**. The method is useful for increased expression of any desired gene or sequence which include therapeutic or immunogenic **proteins** and peptides, nucleic acids for controlling gene expression, genes to reproduce enzymatic pathways for chemical **synthesis**, genes to shunt an enzymatic pathway for enhanced expression of a particular intermediate or final **product**, and industrial processes.
Dwg.0/0

L5 ANSWER 5 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-508524 [54] WPIDS
DNN N2002-402432 DNC C2002-144589
TI Identifying conditions or compounds that prevent or induce transitions of physical state relating to disease causing processes, utilizes array comprising several samples, each sample having a medium and the substance.
DC B04 C07 D16 S03
IN LEVINSON, D
PA (TRAN-N) TRANSFORM PHARM INC; (LEVI-I) LEVINSON D
CYC 99
PI WO 2002044730 A1 20020606 (200254)* EN 76p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZM ZW
US 2002098518 A1 20020725 (200254)
AU 2002017953 A 20020611 (200264)
ADT WO 2002044730 A1 WO 2001-US44818 20011128; US 2002098518 A1 Provisional US 2000-253629P 20001128, US 2001-994585 20011127; AU 2002017953 A AU 2002-17953 20011128
FDT AU 2002017953 A Based on WO 200244730
PRAI US 2000-253629P 20001128; US 2001-994585 20011127
AB WO 200244730 A UPAB: 20021031
NOVELTY - Screening array of at least 24 samples to identify conditions, compounds or compositions that inhibit, prevent, induce, modify, or reverse transitions of physical state, comprising **preparing** array of 24 samples, each sample comprising a medium and a disease-causing substance, processing sample(s) to induce or reverse transition of

physical state in the substance and analyzing processed samples, is new.

DETAILED DESCRIPTION - Screening array of at least 24 samples to identify conditions, compounds or compositions that inhibit, prevent, induce, modify, or reverse transitions of physical state, comprising **preparing** array of 24 samples, each sample comprising a medium and a disease-causing substance, processing sample(s) to induce or reverse transition of physical state in the substance and analyzing processed samples to detect transition in physical state, is new.

INDEPENDENT CLAIMS are also included for the following:

(1) an array (I) for screening to identify conditions, compounds or compositions that inhibit, prevent, induce, modify, or reverse transitions of physical state comprises at least 24 samples, each sample comprising a medium and one or more of the samples comprises a disease-causing substance; and

(2) **preparing** (I), by adding a medium to each of the samples and adding a disease-causing substance to at least one of the samples.

ACTIVITY - Osteopathic; Antisickling; Antigout; Anticoagulant.

MECHANISM OF ACTION - **Hemoglobin** polymerization inhibitor; Uric acid crystal formation inhibitor; Prevention of hemozoin formation, microtubule polymerization or depolymerization.

USE - The method is useful for screening array of at least 24 samples to identify conditions, compounds or compositions that inhibit, prevent, induce, modify, or reverse transitions of physical state. (I) is useful to discover conditions, compounds, or compositions that prevent or inhibit: (A) crystallization, precipitation, polymerization, or deposition of a disease-causing substance, or promote (B): depolymerization, dissolution, destruction, or breakup of the substance. The disease-causing substance is calcium phosphate, calcium carbonate, calcium pyrophosphate, brushite, apatite, hydroxyapatite, calcium oxide, kidney stone, bone tissue, magnesium phosphate, uric acid or a salt, a gall stone, cholesterol, an amyloid **protein**, collagen, bilirubin or a salt, dental plaque, dental calculus, **protein** structure, or a **protein** precipitate or a hydrate or a mixture, The method comprising processing one or more of the samples in the array to induce (A) or (B) of the substance, screening the array by analyzing the processed samples to detect absence of (A) of the substance, or the presence of (B) of the substance, and selecting the samples where (A) did not occur or (B) has occurred, to identify the conditions, compounds, or compositions (all claimed). The compounds, compositions, or conditions are useful to treat (e.g. reverse) or prevent the disease itself, the cause of the disease or the symptoms of the disease, or to promote desirable physical-state transitions, such as bone mineralization. The method is useful for identifying compounds, especially small molecules that can inhibit **hemoglobin** polymerization and/or be useful for treating sickle cell disease, compounds that inhibit formation of uric acid crystal which may prevent or alleviate one or more disease symptoms, promote dissolution of deposited uric acid crystals in the course of treating gout, and for discovering substances and formulations targeting dissolution of hemozoin, or preventing hemozoin formation, or micro-tubule polymerization or depolymerization. The method is also useful for identifying compounds that inhibit the formation of or promote the dissolution of calcium-containing crystals and other types of crystals.

ADVANTAGE - The array provides cost-effective methods to rapidly **produce** and screen hundreds, thousands, to hundreds to thousands of samples per day. The methods provide extremely powerful tool for the rapid and systematic analysis.

Dwg.0/0

L5 ANSWER 6 OF 36 WPIDS (C) 2003 THOMSON DERWENT

AN 2002-454601 [48] WPIDS
DNN N2002-358521 DNC C2002-129270
TI New substantially purified or isolated polypeptide e.g., MADS-box, CENTRORADIALIS, APETALA2, Homeo-box **proteins**, isolated from ryegrass or fescue species, useful for controlling **plant** life cycles and/or growth phases.
DC C06 D16 P13
IN EMMERLING, M; ONG, E K; SAWBRIDGE, T I; SPANGENBERG, G
PA (AGRE-N) AGRESEARCH LTD; (AGRI-N) AGRIC VICTORIA SERVICES PTY LTD
CYC 97
PI WO 2002033091 A1 20020425 (200248)* EN 290p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2002010243 A 20020429 (200255)
ADT WO 2002033091 A1 WO 2001-AU1311 20011017; AU 2002010243 A AU 2002-10243 20011017
FDT AU 2002010243 A Based on WO 200233091
PRAI AU 2000-873 20001019
AB WO 200233091 A UPAB: 20020730
NOVELTY - A substantially purified or isolated polypeptide (I) from a ryegrass (Lolium sp.) or fescue (Festuca sp.) species, such as MADS-box (MADS) and MADS-like **proteins**, CENTRORADIALIS (CEN) and CEN-like **proteins**, APETALA2 (AP2) and AP2-like **proteins**, Homeo-box **proteins** (**HB**) and **HB**-like **proteins**, or their functionally active fragments or variants, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a substantially purified or isolated nucleic acid or nucleic acid fragment (II) encoding MADS, CEN, AP2, or **HB proteins** from ryegrass or fescue species;

(2) a construct (III) including (II);

(3) a vector (IV) including (II);

(4) a **plant**, **plant** cell or **plant** seed or **plant** part (V) including (III) or (IV); and

(5) a **plant**, **plant** seed or other **plant** part derived from the **plant** cell or **plant** of (4).

USE - Nucleic acid (II) encoding (I), a construct (III) comprising (II), or a vector (IV) comprising (II), is useful for modifying **plant** life cycles and/or growth phases, flowering processes, flowering and/or **plant** architecture and/or flower and/or inflorescence development in a **plant**, which involves introducing (II), (III) or (IV) into the **plant**. (II) or its nucleotide sequence information and/or single nucleotide polymorphisms are useful as a genetic marker (all claimed). The individual or simultaneous enhancement or downregulation of MADS-box gene activities may alter flower and embryo and seed development, e.g., enhance or inhibit embryo differentiation and growth, alter flower organ identity through conversion of one floral organ in another, lead to absence of individual floral organs, lead to male and/or female sterility, increase the number of specific floral organs, etc. The enhancement or otherwise manipulation of CEN activity in **plants** alter the control of phase change, promote vegetative growth indefinitely, delay or otherwise alter flowering in time, and increase or otherwise alter the number of leaves made before flowering. The down-regulation or otherwise manipulation of AP2 activity in **plants** alter flower organ identity through conversion of one

floral organ in another, lead to absence of individual floral organs, increase the number of specific floral organs, and alter flowering architecture. The enhancement or ectopic expression or manipulation of **HB** activity in **plants** alter control of phase change, promote or reduce vegetative growth, delay or otherwise alter flowering, etc. Manipulation of flowering **plant** architecture has a wide range of application such as inducing male sterility for hybrid seed **production**, in changing flower architecture for enhancing value of ornamentals, in delaying flowering in forage grasses thus stopping the formation of less digestible stems and increasing herbage quality, in altering flowering time allowing early maturing crops, in delaying vegetative phase and thus increasing biomass **production**, in increasing branching and thus leading to enhanced business in fruit trees in altering **plant** size and leading to shorter **plant** stature, in blocking flowering and reducing release for allergenic pollen, etc. (II) is used to isolate nucleic acids or nucleic acid fragments to isolate cDNAs and genes encoding homologous **proteins** from the same or other **plant** species. (II) can also be used as probes or primers. (II) or its nucleotide sequence information may be used as molecular genetic marker for quantitative trait loci (QTL) tagging, QTL mapping, DNA fingerprinting, and in marker assisted selection in ryegrasses and fescues. (II) may be used as molecular genetic markers in forage and turf grass improvement e.g., tagging QTLs for herbage quality traits, flowering intensity, flowering time, number of tillers, leafiness, bushiness, seasonal growth pattern, herbage yield, flower architecture, **plant** stature, etc.
Dwg.0/96

L5 ANSWER 7 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-195966 [25] WPIDS
DNC C2002-060637
TI Producing recombinant polypeptides from duckweed **plant** culture, by transforming culture with nucleotide sequence coding for the polypeptide and signal peptide that directs polypeptide secretion into culture medium.
DC B04 C06 D16
IN DICKEY, L; GASDASKA, J; STOMP, A
PA (BIOL-N) BIOLEX INC; (DICK-I) DICKEY L; (GASD-I) GASDASKA J; (STOM-I) STOMP A
CYC 96
PI WO 2002010414 A2 20020207 (200225)* EN 47p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001088226 A 20020213 (200238)
US 2002088027 A1 20020704 (200247)
ADT WO 2002010414 A2 WO 2001-US23400 20010726; AU 2001088226 A AU 2001-88226 20010726; US 2002088027 A1 Provisional US 2000-221705P 20000731, Provisional US 2001-293330P 20010523, US 2001-915873 20010726
FDT AU 2001088226 A Based on WO 200210414
PRAI US 2001-293330P 20010523; US 2000-221705P 20000731; US 2001-915873 20010726
AB WO 200210414 A UPAB: 20020418
NOVELTY - **Producing** (I) a biologically active recombinant polypeptide comprises culturing a duckweed (DW) **plant** culture or DW nodule culture, which is stably transformed to express the polypeptide encoded by a nucleotide sequence that has been modified for enhanced

expression in DW and collecting the polypeptide from DW **plant** or nodule culture.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a stably transformed DW **plant** or nodule culture (II) as above;

(2) a nucleic acid molecule (III) comprising a nucleotide sequence encoding active human alpha -2b-interferon precursor or mature alpha -2b-interferon of 188 (S1) or 165 (S2) amino acids, respectively defined in the specification, or the amino acid sequence of a biologically active variant of (S1) or (S2) which has 80% sequence identity with (S1) or (S2), where the nucleotide sequence comprises DW-preferred codons; and

(3) a nucleic acid molecule (IV) comprising a nucleotide sequence encoding a signal peptide of rice alpha -amylase or modified rice-amylase signal peptide of the amino acid sequence MQVLNTMVNKHFLSLSVLIVLLGLSSNLTAG or MQVLNTMVNKHFLSLSVLIVLTVLSSNLTAG, respectively, where the nucleotide sequence comprises DW-preferred codons.

USE - (I) is useful for **producing** a biologically active recombinant polypeptide and for the directed secretion of the polypeptide from DW **plant** or nodule cultures. The polypeptides include a mammalian, therapeutic polypeptide such as insulin, growth hormone, alpha -interferon, beta -interferon, beta -glucocerebrosidase, beta -glucoronidase, retinoblastoma **protein**, p53 **protein**, angiostatin, leptin, monoclonal antibodies, cytokines, receptors, human vaccines, animal vaccines, **plant** polypeptides and serum albumin, enzyme, alpha -2b-interferon, in particular human alpha -2b-interferon or its biologically active variant. The DW frond culture or DW nodule culture expresses and assembles all of the subunits of a biologically active multimeric **protein** chosen from collagen, **hemoglobin**, P450 oxidase, and a monoclonal antibody (claimed), useful for industrial or chemical processes or for diagnostic, therapeutic or vaccination purposes. (III) and (IV) are useful for the expression and secretion of human alpha -2b-interferon in DW.

ADVANTAGE - The method results in increased polypeptide yield and enables the **production** of useful quantities of valuable biologically active polypeptides. Secretion of the expressed polypeptide facilitates its recovery and prevents the loss of activity that might result from the mechanical grinding or enzymatic lysing of DW tissue.

Dwg.0/2

L5 ANSWER 8 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-090272 [12] WPIDS
DNC C2002-027973
TI Shelf-stable moist food foam product contains moist foamed food base, and partially or fully denatured edible **protein**(s) which stabilizes air bubbles in food base.
DC D13
IN HANSELMANN, W; MUELLER, A
PA (NEST) SOC PROD NESTLE SA
CYC 56
PI WO 2001097638 A1 20011227 (200212)* EN 15p
RW: AT BE CH CY DE DK ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AU BR CA CN CZ HR HU IL IN JP MX NO NZ PL SK US ZA
EP 1166655 A1 20020102 (200226) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
AU 2001066029 A 20020102 (200230)
ADT WO 2001097638 A1 WO 2001-EP6055 20010528; EP 1166655 A1 EP 2000-112892 20000619; AU 2001066029 A AU 2001-66029 20010528

FDT AU 2001066029 A Based on WO 200197638
PRAI EP 2000-112892 20000619
AB WO 200197638 A UPAB: 20020221
NOVELTY - A shelf-stable moist food foam product comprises a moist foamed food base, and partially or fully denatured edible **protein**(s). The edible **protein** stabilizes air bubbles in the food base, and contains more than 20% water.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a process of preparing the shelf-stable moist food foam product, comprising whipping a mixture comprising the edible **protein**(s) and the food base to produce a moist foam; filling the whipped mixture into a container, and sealing or closing the container; and heating the closed or sealed container to partially or fully denature the edible **protein** to stabilize the moist foam; and

(2) a method of providing to a consumer the moist food foam product in a container which is shelf stable without refrigeration.

USE - As a shelf-stable moist food foam product, e.g. baby-food products, desserts, mousses based on milk, water or fruits, petfoods, ice cream, culinary products, mayonnaise spread and clinical nutrition products.

ADVANTAGE - The moist product has a shelf-life of 3-18 (preferably 9-12) months at room temperature without any organoleptic loss. It is shelf-stable without refrigeration, thus giving a great advantage to a consumer. It can be manufactured with a milder heat-treatment, where denaturation of the **proteins** occur. It can be manufactured in an easier way compared to conventional processes, with whipping without oxygen, thus allowing the whipped product to be sterilized in a safe way, that is without any risk of having a collapse of the foam.
Dwg.0/0

L5 ANSWER 9 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-067087 [10] WPIDS
DNC C2002-040362
TI Combined **plant** coagulate composition used for treating iron deficiency conditions comprises **protein** coagulate of green leafy material from herbs e.g. Spinach and Cowpea.
DC B04 D13 E33 F09
IN DUGGAL, R K; MATHURR, B; SARAVANAKUMAR, K; DUGALL, R K; MATHUR, B; DUGGAL, R; KUMAR, S K
PA (DABU-N) DABUR RES FOUND; (DUGG-I) DUGGAL R K; (MATH-I) MATHUR B; (SARA-I) SARAVANAKUMAR K
CYC 4
PI AU 2001031296 A 20011004 (200210)* 22p
ZA 2001002491 A 20011224 (200212) 19p
US 2002022060 A1 20020221 (200221)
DE 10113324 A1 20011115 (200224)
ADT AU 2001031296 A AU 2001-31296 20010323; ZA 2001002491 A ZA 2001-2491 20010327; US 2002022060 A1 US 2001-815334 20010323; DE 10113324 A1 DE 2001-10113324 20010320
PRAI IN 2000-340 20000328
AB AU 2001031296 A UPAB: 20020319
NOVELTY - Combined **plant** coagulate composition (A) comprises **protein** coagulate of green leafy material from at least two herbs comprising Spinach (Spinachia oleracea), Amaranth (Amaranthus spp.), Berseem (Trifolium alexandranum) and/or Cowpea (Vigna sinensis).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for **production** of (A).

ACTIVITY - Antianemic; Anabolic.

In a test using a combined **plant** coagulate **prepared** from the aerial parts of Cowpea and Amaranth (2 kg each) and containing

0.26 % w/w iron, the coagulate was administered at a dose of 150 mg/day to albino rats while fed with a standard diet,. Results showed that the increase in **hemoglobin** after 1, 2 and 3 weeks was 39.4, 52.1 and 59.2, respectively, compared to 24.2, 30.8 and 34.4, respectively for a Cowpea coagulate and 30.0, 38.2 and 41.9, respectively for an Amaranth group.

MECHANISM OF ACTION - None given in the source material.

USE - Used for treating iron deficiency related conditions e.g. anemia.

ADVANTAGE - (A) Improves the blood profile better than **plant** coagulate from individual sources.

Dwg.0/0

L5 ANSWER 10 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-335948 [35] WPIDS
DNC C2001-103856
TI Isolating DNA by complex formation with fumed metal oxide, useful for processing blood samples for forensic or diagnostic study, provides high and adjustable selectivity.
DC B04 D16
IN KRUPEY, J
PA (LIGO-N) LIGOCHEM INC
CYC 95
PI WO 2001034844 A1 20010517 (200135)* EN 66p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001014836 A 20010606 (200152)
EP 1244811 A1 20021002 (200265) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
ADT WO 2001034844 A1 WO 2000-US31005 20001113; AU 2001014836 A AU 2001-14836 20001113; EP 1244811 A1 EP 2000-977161 20001113, WO 2000-US31005 20001113
FDT AU 2001014836 A Based on WO 200134844; EP 1244811 A1 Based on WO 200134844
PRAI US 1999-164608P 19991110
AB WO 200134844 A UPAB: 20010625
NOVELTY - Isolating (M1) DNA from other substances in solution by:

(i) treating the solution with fumed metal oxide (I);

(ii) allowing the DNA-(I) complex (C) formed to settle, under gravity or by centrifuging;

(iii) washing (C) with deionized water;

(iv) releasing DNA with mild alkali; and

(v) recovering free DNA by centrifuging or filtration, then neutralizing it with acid or acid salt.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) composition (II) containing (I), having non-attenuated charges and high binding capacity for RNA but only marginal capacity for DNA, produced by dispersing (I) in deionized water;

(2) process (M2) for removing RNA from DNA-containing products using (II);

(3) removing (M3) contaminating RNA and DNA in processing of recombinant **proteins**;

(4) composition of (I) bound to poly(ethylene glycol) (PEG) having higher particle density and lower cross-reactivity with **protein** than a similar product without PEG;

(5) binding (M4) DNA and RNA, or RNA only, to a metallic oxide

surface; and
(6) kit for isolating DNA from other substances in solution.
USE - The method is used to isolate DNA (including plasmids and bacterial artificial chromosomes) from **protein**-containing or **protein**-free biological fluids, cell lysates, such as for forensic or diagnostic purposes,including diagnosis of bladder cancer or isolation of bacterial/viral clones for sequencing. (I) can also be used to remove contaminating RNA and DNA during processing of recombinant **proteins**.
ADVANTAGE - DNA can be released from its complex without using organic solvent (contrast silica), and contaminating **proteins** can be removed from the complex using anions that do not cause desorption of DNA. (I) has high selectivity for nucleic acids (DNA and RNA, or just RNA, depending on conditions) and binds them instantaneously.
Dwg.0/9

L5 ANSWER 11 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-316333 [33] WPIDS
DNN N2001-227383 DNC C2001-097453
TI New Drosophila melanogaster GPCR nucleic acids and polypeptide useful for inducing an immune response, for identifying homologs and for treating e.g. diabetes, obesity and manic depression.
DC B04 D16 S03
IN KUBIAK, T A; LARSEN, M J; LOWERY, D E; SMITH, V G
PA (PHAA) PHARMACIA & UPJOHN CO
CYC 95
PI WO 2001031005 A2 20010503 (200133)* EN 110p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001012186 A 20010508 (200149)
EP 1222273 A2 20020717 (200254) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
ADT WO 2001031005 A2 WO 2000-US29002 20001020; AU 2001012186 A AU 2001-12186 20001020; EP 1222273 A2 EP 2000-973703 20001020, WO 2000-US29002 20001020
FDT AU 2001012186 A Based on WO 200131005; EP 1222273 A2 Based on WO 200131005
PRAI US 1999-425676 19991022
AB WO 200131005 A UPAB: 20010615
NOVELTY - An isolated Drosophila melanogaster GPCR (DmGPCR) nucleic acid molecule (I), is new.
DETAILED DESCRIPTION - (I) encodes at least a portion of DmGPCR and consists of one of 11 fully defined nucleotide sequences (S1) or fragments given in the specification or their homologs, or encodes a polypeptide (II) comprising one of 11 fully defined sequences (S2) given in the specification, or encodes a polypeptide homologous to S2.
INDEPENDENT CLAIMS are also included for the following:
(1) an isolated nucleic acid molecule (III) comprising a nucleotide sequence complementary to at least a portion of S1, which encodes at least a portion of DmGPCR;
(2) an expression vector comprising (I) or (III);
(3) a host cell transformed with the vector;
(4) a method of producing a polypeptide (II) comprising S2;
(5) an isolated polypeptide (II) encoded by (I);
(6) an isolated antibody which binds to an epitope on (II);
(7) a method (M1) for identifying a compound which binds (II), comprising contacting (II) with a compound, and determining whether it

binds;

(8) a method (M2) for identifying a compound which binds (I), comprising contacting (I) with a compound, and determining whether it binds;

(9) a method (M3) of identifying a compound which modulates the activity of DmGPCR comprising contacting DmGPCR with a compound and determining whether DmGPCR activity has been modulated;

(10) identifying (M4) a modulator of binding between DmGPCR and the binding partner, comprising contacting DmGPCR and the binding partner together in the presence of a putative modulator, and determining whether the presence of the modulator increases or decreases binding; and

(11) a compound identified by the methods.

ACTIVITY - Immunostimulant; antimicrobial; virucide; anti-HIV; cytostatic; analgesic; antiparkinsonian; hypertensive; hypotensive; antidiabetic; anorectic; antiarteriosclerotic; thrombolytic; cerebroprotective; nephrotropic; antiinflammatory; antirheumatic; antiarthritic; tranquilizer; neuroleptic; antidepressant; antimanic; nootropic; anticonvulsant.

MECHANISM OF ACTION - Antisense-therapy; DmGPCR-antagonist; DmGPCR-agonist; **protein** kinase-inhibitor.

USE - (II) is useful for inducing an immune response against itself in a mammal (claimed). (I) is useful for identifying an animal homolog of DmGPCR, by screening databases or libraries (claimed).

The compounds identified using M1-M4 are useful for treating diseases in animals, and for control insects that are harmful or cause injury to **plants** or animals.

Diseases treated include infections (e.g. viral and HIV), cancer, pain, Parkinson's, hypotension, hypertension, diabetes, obesity, atherosclerosis, thrombosis, stroke, renal failure, inflammation, rheumatoid arthritis, autoimmune disorders, and psychotic and neurological disorders (anxiety, schizophrenia, manic depression, delirium, dementia, severe mental retardation, dyskinesias, Huntington's disease or Tourette' syndrome).

(I) can be used for genetic mapping, and producing (II).

The antibodies can be used in therapy, diagnostic assays and for modulating (I).

Dwg.0/0

L5 ANSWER 12 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-290925 [30] WPIDS
DNN N2001-207764 DNC C2001-089281
TI Producing a post-translationally modified heterologous polypeptide such as immunoglobulin, integrin, addressin, selectin, in **plant** host system, comprises altering natural post-translational modification abilities of **plant**.
DC B04 C06 D16 P13
IN BASSUNER, R; MANJUNATH, S; RUSSELL, D
PA (MONS) MONSANTO CO
CYC 94
PI WO 2001029242 A2 20010426 (200130)* EN 132p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
AU 2001015736 A 20010430 (200148)
EP 1224309 A2 20020724 (200256) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

ADT WO 2001029242 A2 WO 2000-US29027 20001020; AU 2001015736 A AU 2001-15736 20001020; EP 1224309 A2 EP 2000-978257 20001020, WO 2000-US29027 20001020
FDT AU 2001015736 A Based on WO 200129242; EP 1224309 A2 Based on WO 200129242
PRAI US 2000-195282P 20000407; US 1999-160758P 19991021
AB WO 200129242 A UPAB: 20010603

NOVELTY - **Producing** (M1) a post-translationally (PT) modified heterologous polypeptide in a **plant** host system (I) comprising altering the natural PT modification abilities of (I), is new.

DETAILED DESCRIPTION - **Producing** (M1) a post-translationally (PT) modified heterologous polypeptide in a **plant** host system (I) comprising:

(a) expressing the heterologous polypeptide, where the cells of (I) have been transformed with one or more expression vectors containing a nucleic acid sequence encoding a heterologous polypeptide;

(b) expressing a PT modifying enzyme, where the cells of (I) have been transformed with an expression vector containing a nucleic acid sequence encoding a PT modifying enzyme;

(c) expressing a heterologous polypeptide and a PT modifying enzyme where the cells of (I) have been transformed with a first expression vector containing a nucleic acid sequence encoding a heterologous polypeptide and a second expression vector containing a nucleic acid sequence encoding a PT modifying enzyme; and

(d) cross-pollinating a first (I) whose cells have been transformed with a first expression vector containing a nucleic acid sequence encoding a heterologous polypeptide, and a second (I), where the cells of (I) have been transformed with a second expression vector containing a nucleic acid sequence encoding a PT modifying enzyme.

INDEPENDENT CLAIMS are also included for the following:

(1) (I) expressing a PT-modified heterologous polypeptide where the natural PT modification abilities of (I) have been altered where

(a) the cells of (I) have been transformed with:

(i) an expression vector comprising a nucleic acid sequence encoding a heterologous polypeptide;

(ii) an expression vector comprising a PT modifying enzyme;

(iii) a first expression vector comprising a nucleic acid sequence encoding a heterologus polypeptide and a second expression vector comprising a nucleic acid sequence encoding a PT modifying enzyme;

(b) (I) that **produces** PT modified heterologous polypeptide and expresses a first expression vector comprising a nucleic acid sequence encoding a heterologous polypeptide and a second express vector comprising a nucleic acid sequence encoding a PT modifying enzyme;

(2) a **plant** (II) **produced** by M1;

(3) a seed **produced** from (II); and

(4) an expression vector comprising one or more nucleic acid sequences encoding one or more of heterologous polypeptide and a PT modifying enzyme.

USE - **Producing** in a **plant** host system, a post-translationally modified heterologous polypeptide such as immunoglobulin, integrin, addressin, selectin, homing receptor, T-cell receptor unit, soluble major histocompatibility complex antigen, growth factor receptor, growth factor, growth hormone, cell cycle **protein**, viral antigen, bacterial antigen vaccine, fibrinogen, thrombin or hyaluronic acid, a blood **protein** (e.g. serum albumin, **hemoglobin**, Factor VII, Factor VIII modified Factor VIII, Factor IX, Factor X, tissue plasminogen factor, **Protein** C, von Willebrand factor, antithrombin III, and erythropoietin), a colony stimulating factor (e.g. granulocyte colony-stimulating factor, macrophage colony-stimulating factor and granulocyte macrophage colony-stimulating factor), a cytokine (e.g. interleukins 1 through 18, interleukin-T, interferon alpha, interferon beta, interferon gamma, leukemia inhibitory

factor, oncostatin, transforming growth factor beta, tumor necrosis factor alpha, and tumor necrosis factor beta), a membrane surface **protein** (e.g. insulin receptor, epidermal growth factor receptor, and beta -adrenergic receptor), a structural **protein** (e.g. collagen types I through XX, fibrinogen, elastin, tubulin, actin and myosin), or an antibody or its functional equivalent (e.g. immunoglobulin (Ig) IgA, IgG, IgD, IgE, IgM, Fab and Fv) (claimed).
Dwg.0/24

L5 ANSWER 13 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-226693 [23] WPIDS
DNN N2001-161087 DNC C2001-067681
TI Expressing non-native genes in flax seeds and seeds of other **plant** species for altering the seed oil and **protein** composition in the seeds, comprises using seed-specific promoters obtained from flax.
DC C06 D16 P13
IN CHAUDHARY, S; MOLONEY, M M; SINGH, S; VAN ROOJEN, G; VAN ROOIJEN, G
PA (CHAU-I) CHAUDHARY S; (MOLO-I) MOLONEY M M; (SING-I) SINGH S; (VROO-I) VAN ROOIJEN G; (CSIR) COMMONWEALTH SCI & IND RES ORG; (SEMB-N) SEMBIOSYS GENETICS INC
CYC 95
PI WO 2001016340 A1 20010308 (200123)* EN 69p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
CA 2310304 A1 20010227 (200125) EN
AU 2000066792 A 20010326 (200137)
BR 2000013596 A 20020507 (200238)
EP 1212438 A1 20020612 (200239) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
NO 2002000932 A 20020425 (200241)
KR 2002057950 A 20020712 (200305)
CN 1376204 A 20021023 (200313)
ADT WO 2001016340 A1 WO 2000-CA988 20000825; CA 2310304 A1 CA 2000-2310304 20000530; AU 2000066792 A AU 2000-66792 20000825; BR 2000013596 A BR 2000-13596 20000825, WO 2000-CA988 20000825; EP 1212438 A1 EP 2000-954241 20000825, WO 2000-CA988 20000825; NO 2002000932 A WO 2000-CA988 20000825, NO 2002-932 20020226; KR 2002057950 A KR 2002-702637 20020227; CN 1376204 A CN 2000-813447 20000825
FDT AU 2000066792 A Based on WO 200116340; BR 2000013596 A Based on WO 200116340; EP 1212438 A1 Based on WO 200116340
PRAI CA 2000-2310304 20000530; US 1999-151044P 19990827; US 1999-161722P 19991027
AB WO 200116340 A UPAB: 20010425
NOVELTY - Expressing (I) a nucleic acid sequence of interest (NA) in flax seeds, comprises introducing a chimeric nucleic acid construct containing a seed-specific promoter obtained from flax and NA, which is non-native to the promoter into a flax **plant** cell and growing the **plant** cell into a mature flax **plant** capable of setting seed, where NA is expressed in the seed under the control of the promoter.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) a transgenic flax seed **prepared** by (I);
(2) transgenic flax **plants** capable of setting seed, **prepared** by (I);
(3) an isolated seed-specific promoter (II) capable of directing

seed-specific expression in a **plant**, comprising a nucleic acid sequence (its complement, analog, homologous sequence or a hybridizable nucleic acid sequence) of 4305, 3501, 1676 or 4999 base pairs (bp), given in the specification, where T can also be U;

(4) an isolated chimeric nucleic acid (III) comprising (II) and another nucleic acid non-native to the flax seed-specific promoter;

(5) expressing a nucleic acid of interest in a **plant** seed comprising introducing (III) into a **plant** cell and growing the cell into a mature **plant** capable of setting seed, where the second nucleic acid is expressed in the seed under the control of the seed specific promoter;

(6) a **plant prepared** by introducing (III) into a **plant** cell and a **plant** seed obtained from the **plant**;

(7) a **plant** cell comprising (III);

(8) **plant** seed comprising (III); and

(9) a recombinant expression vector comprising (II) or (III).

USE - The method is useful for expressing a nucleic acid sequence of interest in flax seeds, which results in an alteration in **protein** or fatty acid composition in the seed. A chimeric nucleic acid (III) is useful for expressing a NA in a **plant** seed, by transforming a **plant** cell, including cells of soybean, rape seed, sunflower, cotton, corn, tobacco, alfalfa, wheat, barley, oats, sorghum, Arabidopsis thaliana, potato, flax/linseed, safflower, oil palm, groundnut, Brazil nut, coconut, castor, coriander, squash, jojoba and rice with (III) (claimed). The seed-specific promoters obtained from flax are useful for modifying the **protein**, oil or polysaccharide composition of the flax seeds and seeds of other **plant** species. The promoters facilitate expression of **proteins**, including sulfur-rich **protein** that are found in lupins or Brazil nuts in a seed deficient in sulfurous amino acids, peptides having pharmaceutical value such as anticoagulants, antibodies, vaccines, cytokines, growth factors, interleukins, mammalian **proteins**, including alpha -1-antitrypsin, anti-obesity **proteins**, **hemoglobin**, blood **proteins**, human serum albumin, insulin, lactoferrin, myoglobin and pulmonary surfactant **proteins** and peptides of industrial value such as alpha -amylase or other amylases including amyloglucosidase, arabinase, catalase, cellobiohydrolase, pectinases, phytase, papain and xylanase.

ADVANTAGE - The method provides improved control over the expression of non-native genes in flax seeds and expression of the non-native gene is restricted to the seeds, thereby limiting undesirable effects resulting from the expression in other **plant** organs or tissues. The method also allows improved control over expression characteristics, such as the expression level of the non-native gene and timing of expression of the non-native gene in the development cycle of the **plant**. The seed composition with respect to valuable raw materials, such as oil, **proteins** and polysaccharides, may be altered both qualitatively and quantitatively.

Dwg.0/13

L5 ANSWER 14 OF 36 WPIDS (C) 2003 THOMSON DERWENT

AN 2000-594184 [56] WPIDS

CR 2000-533264 [48]; 2000-579287 [53]; 2000-587312 [50]

DNN N2000-440075 DNC C2000-177414

TI Modifying morphological, biochemical or physiological characteristics of **plants**, useful in increasing food production for humans and livestock, by ectopically expressing a Cdc2 **protein** operably under a promoter sequence.

DC C06 D16 P13

IN JOHN, P C L
PA (CROP-N) CROPDESIGN NV; (AUSU) UNIV AUSTRALIAN NAT
CYC 91
PI WO 2000052172 A1 20000908 (200056)* EN 119p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000027860 A 20000921 (200065)
EP 1161541 A1 20011212 (200204) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
ADT WO 2000052172 A1 WO 2000-AU135 20000225; AU 2000027860 A AU 2000-27860 20000225; EP 1161541 A1 EP 2000-906072 20000225, WO 2000-AU135 20000225
FDT AU 2000027860 A Based on WO 200052172; EP 1161541 A1 Based on WO 200052172
PRAI US 1999-149049P 19990816; US 1999-121870P 19990226
AB WO 200052172 A UPAB: 20020117
NOVELTY - Modifying one or more **plant** morphological, biochemical and/or physiological characteristics by expressing in one or more particular cells, tissues or organs of a **plant**, an isolated nucleic acid encoding a (modified) Cdc25 substrate operably under the control of a promoter sequence that is operable in the **plant**, cell, tissue or organ.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) transformed **plants** produced from the methods;

(2) **plant** parts, propagules, or progenies, which exhibit one or more modified **plant** morphological, biochemical and/or physiological characteristics of the **plant** as a consequence of the ectopic expression of the (modified) Cdc25 substrate **protein**; and

(3) a gene construct comprising a nucleotide sequence encoding a (modified) Cdc25 substrate **protein**, placed operably in connection with a promoter sequence that is operable in a **plant** or a cell, tissue or organ, and the promoter sequence consists of:

(a) a strong constitutive promoter sequence;
(b) a patatin gene promoter sequence;
(c) a modified patatin gene promoter sequence having a deletion in a sucrose-responsive element;
(d) an auxin-inducible SAUR gene promoter sequence;
(e) a rolB gene promoter sequence;
(f) a rice prolamin NRP33 gene promoter sequence;
(g) a synthetic promoter sequence comprising one or more endosperm box motifs derived of the barley Hor2 gene;
(h) a LEAFY gene promoter sequence;
(i) a knat1 gene promoter sequence;
(j) a kn1 gene promoter sequence;
(k) a CLAVATA1 gene promoter sequence;
(l) a cab-6 gene promoter sequence;
(m) a rice REB gene promoter sequence; or
(n) a ubi7 gene promoter sequence.

USE - The method is useful for increasing or enhancing the rate of **plant** development or growth, vigor, production of biomass, branches, flowers and fruits, which subsequently increases forage crops and seed **proteins** of high nutritional value to both humans and livestock. The method is also useful for modifying the physiological, morphological or biochemical properties in **plants** as well as in the expression of desired characteristics important in crop production.

ADVANTAGE - Unlike previous methods, the new method allows the modification of the morphological, physiological and/or biochemical characteristics of a **plant** without undesirable pleiotrophy.
Dwg.0/18

L5 ANSWER 15 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-593715 [56] WPIDS
DNN N2000-439662 DNC C2000-177288
TI Producing transgenic Impatiens **plants** for obtaining **plants**, seeds or progenies with enhanced resistance environmental stresses and commercial value by introducing an expression vector having a selectable marker and a foreign gene.
DC C06 D16 P13
IN CHOU, T
PA (BALL-N) BALL HORTICULTURAL CO
CYC 1
PI US 6121511 A 20000919 (200056)* 12p
ADT US 6121511 A Provisional US 1997-58902P 19970912, US 1998-151782 19980911
PRAI US 1997-58902P 19970912; US 1998-151782 19980911
AB US 6121511 A UPAB: 20001106
NOVELTY - Producing transgenic Impatiens **plants** by introducing expression vectors comprising a selectable marker gene and foreign gene, into a **plant** tissue explant using Agrobacterium, culturing the explant on selection medium and on regeneration medium, and recovering the fertile transgenic **plants** from the explants capable of transmitting foreign gene to progeny, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) fertile transgenic Impatiens **plants** produced by the novel method; and
(2) seeds and progeny of the transgenic Impatiens **plant** of (1).
USE - The method is useful for obtaining transgenic Impatiens **plants** that express at least one macromolecule, which confers resistance to environmental stresses and with enhanced commercial value. The method is also useful for transforming Impatiens **plants** with enhanced viral resistance, drought resistance and imparts fragrance as well.
Dwg.0/1

L5 ANSWER 16 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-587312 [55] WPIDS
CR 2000-533264 [48]; 2000-579287 [53]; 2000-594184 [50]
DNN N2000-434623 DNC C2000-175142
TI Modifying **plant** morphological, biochemical and/or physiological traits, e.g. enhancing grain yield, by expressing Cdc25 phosphoprotein phosphatase in the **plant** operably under the control of a regulatable promoter sequence.
DC C06 D16 P13
IN JOHN, P C L; SEK, F J; VAN CAMP, W; ZHANG, K
PA (CROP-N) CROPDESIGN NV; (AUSU) UNIV AUSTRALIAN NAT
CYC 90
PI WO 2000052171 A1 20000908 (200055)* EN 107p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000027859 A 20000921 (200065)

ADT WO 2000052171 A1 WO 2000-AU134 20000225; AU 2000027859 A AU 2000-27859 20000225
FDT AU 2000027859 A Based on WO 200052171
PRAI US 1999-149049P 19990816; US 1999-121870P 19990226
AB WO 200052171 A UPAB: 20001214
NOVELTY - Modifying one or more **plant** morphological, biochemical and/or physiological characteristics comprises expressing an isolated nucleic acid molecule having a nucleotide sequence that encodes Cdc25, its homologue, analogue or derivative, operably under the control of a regulatable promoter sequence, in a **plant**, or its cell, tissue or organ.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a gene construct comprising a nucleotide sequence encoding the Cdc25 **protein**, or its homologue, analogue or derivative, placed operably in connection with a regulatable promoter sequence, in a **plant**, or its cell, tissue or organ;

(2) transformed **plants** produced by the new method or comprising the gene construct, which exhibit one or more modified **plant** morphological, biochemical and/or physiological characteristics compared to isogenic non-transformed **plants**; and

(3) **plant** parts, propagules, or progenies of the transformed **plants**, which exhibit one or more modified **plant** morphological, biochemical and/or physiological characteristics of the **plant** as a consequence of the ectopic expression of Cdc25, or its homologue, analogue or derivative.

USE - The new method is useful for modifying one or more morphological, biochemical and/or physiological characteristics in **plants**. These modifications include: enhanced stem strength, enhanced stem thickness, enhanced stem stability, enhanced wind-resistance of the stem, enhanced tuber formation, enhanced tuber development, increased lignin content, enhanced seed set, enhanced seed production, enhanced seed size, enhanced grain yield, enhanced ploidy of the seed, enhanced endosperm size, reduced apical dominance, increased bushiness, enhanced lateral root formation, enhanced rate of lateral root production, enhanced nitrogen-fixing capability, enhanced nodulation or nodule size, reduced or delayed leaf necrosis, reduced or delayed leaf chlorosis, partial or complete inhibition of the arrest of DNA replication in a **plant** cell under growth-limiting conditions, enhanced endoreplication and/or endoreduplication, or enhanced cell expansion (all claimed).

ADVANTAGE - The present method results in modified **plant** characteristics without incurring the non-specific side effects of cytokinin. The activity of cytokinin metabolizing enzymes is circumvented by the direct raising of Cdc25 activity in the **plant** cell, tissue or organ.

Dwg.0/5

L5 ANSWER 17 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-580535 [55] WPIDS
DNC C2000-172911
TI Tea infusion comprising, useful for the treatment of e.g. allergy, anemia and hypertension comprises mixture of dried **plants** and dried, powdered microalgae.
DC B04
PA (HORS-I) HORSTER G
CYC 1
PI DE 20009642 U1 20000817 (200055)* 5p
ADT DE 20009642 U1 DE 2000-20009642U 20000529
PRAI DE 2000-20009642 20000529

AB DE 20009642 U UPAB: 20001102
NOVELTY - A tea infusion comprising a mixture of dried **plant** ingredients and 1-20 % wt. dried, powdered microalgae based on the **plant** component, is new.
ACTIVITY - Antiallergic; antianemic; hypotensive; fungicide; antidiabetic; dermatological; osteopathic; antilipemic; hemostatic; immunostimulant.
MECHANISM OF ACTION - Synergist; cholesterol antagonist.
USE - The tea is useful for the treatment of allergy, anemia, hypertension, fungal infection, diabetes mellitus, eczema, osteoporosis and digestive disorders. The tea decreases serum cholesterol levels. The high chlorophyll content also results in increased **production** of **hemoglobin**, improving the ability of red blood cells to bind oxygen. It also increases vitality and aids recovery from infection.
ADVANTAGE - The algae have a catalytic effect, increasing the activity of the **plant** components. The complex carbohydrates in the algae cells are readily metabolized, and the taste of the tea is not affected by the algae.
Dwg.0/0

L5 ANSWER 18 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-579287 [54] WPIDS
CR 2000-533264 [48]; 2000-587312 [50]; 2000-594184 [50]
DNN N2000-428652 DNC C2000-172460
TI Modifying cell fate or development or **plant** morphological, biochemical and/or physiological characteristics, comprises expressing nucleic acid molecule encoding a cyclin **protein** under regulatable promoter.
DC C06 D16 P13
IN BOGRE, L; HERBERLE-BORS, E; WEINGARTNER, M; HEBERLE-BORS, E
PA (CROP-N) CROPDESIGN NV; (HEBE-I) HEBERLE-BORS E; (VGAV-I) VON GAVEL S L
CYC 91
PI WO 2000052169 A1 20000908 (200054)* EN 113p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
CA 2266295 A1 20000919 (200062)# EN
AU 2000027862 A 20000921 (200065)
EP 1155127 A1 20011121 (200176) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
ADT WO 2000052169 A1 WO 2000-AU137 20000225; CA 2266295 A1 CA 1999-2266295 19990319; AU 2000027862 A AU 2000-27862 20000225; EP 1155127 A1 EP 2000-906074 20000225, WO 2000-AU137 20000225
FDT AU 2000027862 A Based on WO 200052169; EP 1155127 A1 Based on WO 200052169
PRAI US 1999-149049P 19990816; US 1999-121870P 19990226; US 1999-125341P 19990319; CA 1999-2266295 19990319
AB WO 200052169 A UPAB: 20001214
NOVELTY - Modifying cell fate or development or one or more **plant** morphological, biochemical and/or physiological characteristics comprises expressing an isolated nucleic acid molecule encoding a cyclin **protein** or a homolog, analog or derivative operably under the control of a regulatable promoter sequence (PS), in one or more specific cells, tissues or organs of a **plant**.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) a transformed **plant** produced by organogenesis or

embryogenesis including regeneration of the **plant** cell into a whole **plant**;

(2) a **plant** part, propagule, or progeny of the **plant** produced by the method (1);

(3) a gene construct (I) comprising a nucleotide sequence encoding a cyclin **protein** or a homolog, analog or derivative operably in connection with a regulatable PS that is operable in a **plant**; and

(4) a transformed **plant** comprising the gene construct (I).

USE - To modify cell fate or development or one or more **plant** morphological, biochemical and/or physiological characteristics (claimed).

Dwg.0/10

L5 ANSWER 19 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-482840 [42] WPIDS
CR 1999-372624 [32]
DNC C2000-145334
TI Novel methods for selecting target sites for, and production of, zinc finger **proteins**, useful for controlling expression of target genes, e.g. for inhibiting oncogenes or treating sickle cell anemia.
DC B04 D16
IN CASE, C C; COX, G N; EISENBERG, S P; JAMIESON, A; REBAR, E J; COX, I G N; COX III, G N
PA (SANG-N) SANGAMO BIOSCIENCES INC
CYC 91
PI WO 2000042219 A1 20000720 (200042)* EN 82p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
GB 2348425 A 20001004 (200051)
AU 2000027220 A 20000801 (200054)
EP 1075540 A1 20010214 (200111) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
GB 2360285 A 20010919 (200155)
GB 2348425 B 20011017 (200169)
GB 2360285 B 20020227 (200215)
AU 744171 B 20020214 (200223)
JP 2002191371 A 20020709 (200259) 40p
US 6453242 B1 20020917 (200264)
JP 2002534134 W 20021015 (200282) 125p
ADT WO 2000042219 A1 WO 2000-US388 20000106; GB 2348425 A GB 2000-651 20000112; AU 2000027220 A AU 2000-27220 20000106; EP 1075540 A1 EP 2000-905563 20000106, WO 2000-US388 20000106; GB 2360285 A Derived from GB 2000-651 20000112, GB 2001-11280 20010509; GB 2348425 B GB 2000-651 20000112; GB 2360285 B Derived from GB 2000-651 20000112, GB 2001-11280 20010509; AU 744171 B AU 2000-27220 20000106; JP 2002191371 A Div ex JP 2000-593776 20000106, JP 2001-117552 20000106; US 6453242 B1 US 1999-229007 19990112; JP 2002534134 W JP 2000-593776 20000106, WO 2000-US388 20000106
FDT AU 2000027220 A Based on WO 200042219; EP 1075540 A1 Based on WO 200042219; AU 744171 B Previous Publ. AU 200027220, Based on WO 200042219; JP 2002534134 W Based on WO 200042219
PRAI US 1999-229007 19990112
AB WO 200042219 A UPAB: 20021105
NOVELTY - Selecting a target site (TS) within a nucleic acid (I) to be targeted by a zinc finger **protein** (ZFP) by detecting a specific 10-base motif (A), is new.

DETAILED DESCRIPTION - Novel method for selecting a target site (TS) within a nucleic acid (I) to be targeted by a zinc finger **protein** (ZFP) by detecting a specific 10-base motif of formula (A).

5'-NNx aNy bNzc-3' (A)

each of (x, a), (y, b) and (z, c) = (N, N) or (G, K) but at least 1 must be (G, K);

N = any nucleotide;

K = G or T.

INDEPENDENT CLAIMS are also included for the following:

(a) selecting a TS by:

(i) identifying potential TSs comprising three contiguous triplets;

(ii) determining subscores for each combination of triplets and triplet positions by applying a correspondence regime;

(iii) combining subscores for all three triplets to give a score for the potential TS;

(iv) repeating the procedure for at least one other potential TS; and

(v) outputting at least 1 potential TS together with its score;

(b) **producing** ZFP comprising constructing a database of many ZPFs where the nucleic acid sequences for each ZFP comprise at least 3 triplets bound specifically by the individual fingers of the ZFP, and in the same order (3' to 5') as the fingers are arranged (N to C) in the **protein**, identifying fingers that specifically bind to each triplet, and outputing the (sub)designations of the relevant ZPFs;

(c) a computer program for selecting a TS, comprising code for providing a polynucleotide sequence, selecting a potential TS within the sequence, calculating a score for the potential TS from a combination of subscores for 3 triplets as in (a), repeating the selection and calculation steps at least once, and providing an output of the TS with its score;

(d) a system for selecting a TS, comprising a memory, a system bus, a processor operatively disposed to provide or receive a polynucleotide sequence, select a potential TS and calculate a score for the TS as in (c);

(e) a computer program for designing a ZFP, comprising code for a database of 3 fingered ZFPs with subdesignations for each finger and a corresponding nucleic acid for each ZFP, providing a TS , identifying ZFPs in the database that specifically bind to the TS and outputting the designations and subdesignations of the ZFPs;

(f) a system for selecting a TS, comprising a memory, a system bus, a processor operatively disposed to provide or a database of ZFP designations and output ZFP designations and subdesignations as in (e).

ACTIVITY - Antibacterial; antiviral; cytostatic; neuroprotectant; antianemic.

MECHANISM OF ACTION - Modulation of gene expression by the binding of a ZFP.

USE - Selection of TS is used to design ZFP that bind to preselected targets. ZFP bind to DNA and can modulate (inhibit or activate) the expression of a wide range of genes. Typical of many potential applications, of ZFP or the nucleic acids that encode them, are: inhibition of bacterial or viral genes, oncogenes or the apoE gene (implicated in Alzheimer's disease); inducing expression of fetal **hemoglobin** (for treating sickle cell anemia); and in **plants** to increase resistance to diseases or herbicides, or to increase oleic acid **synthesis** at the expense of linoleic or linolenic acids. ZFP can also be used diagnostically, e.g. to detect variant, disease-related alleles; to quantify copy numbers of a gene; to detect pathogenic microbes, and in analysis of phenotype and function of gene expression.

ADVANTAGE - ZFP can be controlled by small molecules, allowing the adjustment of the degree of repression or activation **produced** by

ZFPs and, in transgenic animals, makes switching on a ZFP at a late stage in embryonic development possible, so that effects can be studied in the adult. Nucleic acids encoding a ZFP can be introduced at any site (homologous recombination is not required) and because ZFPs are trans-dominant, only 1 chromosomal copy need be present (functional knockouts can be produced without backcrossing).
Dwg.0/8

L5 ANSWER 20 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-475918 [41] WPIDS
DNC C2000-142712
TI Method of modulating expression of an endogenous cellular gene in a cell to prevent gene activation or prevent repression of gene expression comprising contacting a target sequence with a zinc finger **protein**
.
DC B04 C06 D16
IN CASE, C C; COX, I G N; EISENBERG, S P; JARVIS, E E; SPRATT, S K; COX, G N
PA (SANA-N) SANAGAMO BIOSCIENCES INC; (SANG-N) SANGAMO BIOSCIENCES INC
CYC 91
PI WO 2000041566 A1 20000720 (200041)* EN 101p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
GB 2348424 A 20001004 (200051)
AU 2000028470 A 20000801 (200054)
EP 1061805 A1 20001227 (200102) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
GB 2348424 B 20010314 (200116)
JP 2001231583 A 20010828 (200157) 50p
AU 745844 B 20020411 (200237)
JP 2002534104 W 20021015 (200282) 165p
ADT WO 2000041566 A1 WO 2000-US409 20000106; GB 2348424 A GB 2000-650 20000112; AU 2000028470 A AU 2000-28470 20000106; EP 1061805 A1 EP 2000-906882 20000106, WO 2000-US409 20000106; GB 2348424 B GB 2000-650 20000112; JP 2001231583 A Div ex JP 2000-593186 20000106, JP 2001-5820 20000106; AU 745844 B AU 2000-28470 20000106; JP 2002534104 W JP 2000-593186 20000106, WO 2000-US409 20000106
FDT AU 2000028470 A Based on WO 200041566; EP 1061805 A1 Based on WO 200041566; AU 745844 B Previous Publ. AU 200028470, Based on WO 200041566; JP 2002534104 W Based on WO 200041566
PRAI US 1999-229037 19990112
AB WO 200041566 A UPAB: 20001010
NOVELTY - Modulating expression of an endogenous cellular gene in a cell comprises contacting a first target site in the endogenous cellular gene with a first zinc finger **protein** (ZFP).
ACTIVITY - Cytostatic; vasotropic; antidiabetic; antirheumatic; antiarthritic; antipsoriatic; virucide; antianemia; nootropic; neuroprotective; anti-cystic fibrosis; cerebroprotective.
No biological data given.
MECHANISM OF ACTION - Gene therapy.
USE - The method of modulating expression of an endogenous cellular gene in a cell is used to inhibit expression of the gene where the Kd of the ZFP is less than 25 nM and inhibits expression by 20%, preferably 75-100% to prevent gene activation (claimed). The method of modulating expression of an endogenous cellular gene in a cell is also used to activate expression of a developmentally silent or inactive endogenous cellular gene e.g. EPO (undefined), GATA (undefined), **hemoglobin**

gamma, **hemoglobin** delta, an interleukin, granulocyte macrophage colony stimulating factor (GM-CSF), eutrophin or MyoD (undefined)where the Kd of the ZFP is less than 25 nM and activate expression to at least 150%, preferably 200-500% to prevent repression of gene expression (claimed).

Modulation of gene expression can be used for treating cancer, ischemia, diabetic retinopathy, macular degeneration, rheumatoid arthritis, psoriasis, viral infection, sickle cell anemia, Alzheimer's disease, cystic fibrosis, neurodegenerative diseases and stroke.

ZFPs can be used to engineer **plants** which have increased disease resistance, modification of flavors, fruit ripening, yield, color, and for enhanced oil **production** in crop **plants**.

The ZFPs can also be used in assays to determine the phenotypic consequences and function of gene expression.

The methods can be used to modulate gene expression in transgenic mice.

ADVANTAGE - The modulation methods avoid the need to generate full-length cDNA clones of the gene being studied.

Dwg.0/11

L5 ANSWER 21 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-271442 [23] WPIDS
DNC C2000-082934
TI New host cell modified to have less reducing intracellular environment used for producing peroxidase capable of having disulfide bonds using.
DC B04 C06 D16
IN OSTERGAARD, L; TEILUM, K; WELINDER, K G
PA (UYKO-N) UNIV KOBENHAVNS
CYC 88
PI WO 2000015804 A2 20000323 (200023)* EN 50p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 9955046 A 20000403 (200034)
ADT WO 2000015804 A2 WO 1999-DK483 19990914; AU 9955046 A AU 1999-55046 19990914
FDT AU 9955046 A Based on WO 200015804
PRAI DK 1998-1154 19980914
AB WO 200015804 A UPAB: 20000516
NOVELTY - A recombinant host cell (HC) (I) comprises a gene coding for a peroxidase (P) capable of having disulfide bonds. The cell is genetically modified to have a less reducing intracellular environment as compared to a non-modified cell.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) production of an enzymatically active P capable of having disulfide bonds which comprises cultivating (I) under conditions where the gene is expressed and isolating P to obtain a proportion of enzymatically active P which, relative to that obtained in a non-modified cell under identical conditions, is increased by 10%;

(2) a kit comprising a P obtained as above and at least one further reagent and

(3) production of a functional **protein** which has at least one disulfide bond when functional, which comprises cultivating a bacterial cell comprising a gene coding for the **protein** (which is optionally expressed as an aggregate) under conditions where the gene is expressed, isolating the **protein** from the cell and subjecting

the isolated **protein** to a folding treatment under non-reducing conditions without altering the redox state.

USE - The recombinant host cells are useful in the production of peroxidases, including **plant** and fungal peroxidases, where a high proportion of the enzyme is obtained in an active form.

ADVANTAGE - Peroxidases are obtained in high yields.

DESCRIPTION OF DRAWING(S) - The figure is a map of the pFLAG vector, with the position of restriction sites indicated.

Dwg.1/4

L5 ANSWER 22 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-205525 [18] WPIDS
DNN N2000-152953 DNC C2000-063336
TI New recombinant DNA constructs, for expressing high levels of heterologous **protein** in plastids of higher **plants**, includes promoter, a leader sequence and a downstream box element.
DC A97 C06 D16 P13
IN KHAN, M S; KURODA, H; MALIGA, P
PA (RUTF) UNIV RUTGERS STATE NEW JERSEY
CYC 88
PI WO 2000007431 A1 20000217 (200018)* EN 163p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
AU 9955490 A 20000228 (200030)
EP 1102528 A1 20010530 (200131) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 2002521072 W 20020716 (200261) 148p
ADT WO 2000007431 A1 WO 1999-US17806 19990803; AU 9955490 A AU 1999-55490 19990803; EP 1102528 A1 EP 1999-942025 19990803, WO 1999-US17806 19990803; JP 2002521072 W WO 1999-US17806 19990803, JP 2000-563128 19990803
FDT AU 9955490 A Based on WO 200007431; EP 1102528 A1 Based on WO 200007431; JP 2002521072 W Based on WO 200007431
PRAI US 1999-138764P 19990611; US 1998-95163P 19980803; US 1998-95167P 19980803; US 1998-112257P 19981215; US 1999-131611P 19990429
AB WO 200007431 A UPAB: 20000412
NOVELTY - Recombinant DNA construct for expressing at least one heterologous **protein** in the plastids of higher **plants** comprises a 5' regulatory region which includes a promoter element, a leader sequence and a downstream box element operably linked to a coding region of the at least one heterologous **protein**, the chimeric regulatory region enhancing translational efficiency of an mRNA molecule encoded by the DNA construct.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a vector comprising a DNA construct as in (A);

(2) a plasmid for transforming the plastids of higher **plants**, selected from pHK30(B), pHK31(B), pHK60, pHK32(B), pHK33(B), pH34(A), pHK35(A), pHK64(A), pHK36(A), pHK37(A), pHK38(A), pHK39(A), pHK40(A), pHK41(A), pHK42(A), pHK43(A), pHSK56, pMSK57, pMSK48, pMSK49, pMSK35, pMSK53 and pMSK54;

(3) a transgenic **plant** containing a plasmid as in (2);

(4) **producing** transplastomic monocots, comprising:

(a) obtaining embryonic cells,

(b) exposing the cells to a heterologous DNA molecule whereby the DNA enters the plastids of the cells, the heterologous DNA molecule encoding

at least one exogenous **protein** encoding a selectable marker,

(c) applying a selection agent to the cells to facilitate sorting of untransformed plastids from transformed plastids, the cells containing transformed plastids surviving and dividing in the presence of the selection agent,

(d) transferring the surviving cells to selective media to promote shoot regeneration and growth, and

(e) rooting the shoots, thereby **producing** transplastomic monocot **plants**;

(5) **producing** transplastomic rice **plants**, comprising:

(a) obtaining embryonic calli,

(b) inducing proliferation of calli on modified CIM medium,

(c) obtaining embryogenic cell suspensions of the proliferation calli in liquid AA medium,

(d) bombarding the embryonic cells with microprojectiles coated with plasmid DNA,

(e) transferring the bombarded cells to selective liquid AA medium,

(f) transferring the cells surviving in AA medium to selective RRM regeneration medium for green shoots to appear, and

(g) rooting the shoots in a selective MS salt medium;

(6) containing transgenes in transformed **plants**, comprising:

(a) determining the codon usage in the **plant** to be transformed and in microbes found in association with the **plant**, and

(b) genetically engineering the transgene sequence via the introduction of rare codons to abrogate expression of the transgene in the **plant** associated microbe.

USE - Used for **producing** transformed monocot and dicot **plants** having high levels of heterologous **protein** expression. They can be used to drive expression of **proteins** with agronomic, industrial or pharmaceutical importance, including **production** of vaccines, healthcare **products** like human **hemoglobin**, industrial or household enzymes. The methods can be used for **producing** transformed monocot **plants**, e.g. maize, millet, sorghum, sugar canem rice, wheat, barley, oat, rye or turf grass (claimed).

Dwg.0/35

L5 ANSWER 23 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-182711 [16] WPIDS
DNN N2000-134702 DNC C2000-057308
TI Novel nucleic acid construct for down-regulating steady state levels of **proteins** in **plant** cells, transgenic **plants** and their progeny.
DC C06 D16 P13
IN FOLKERTS, O; HASLER, J M; PETELL, J K; STRICKLAND, J A; SUKHAPINDA, K
PA (DOWC) DOW AGROSCIENCES LLC
CYC 85
PI WO 2000005391 A1 20000203 (200016)* EN 113p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW
AU 9952199 A 20000214 (200029)
EP 1124973 A1 20010822 (200149) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT

RO SE SI
ADT WO 2000005391 A1 WO 1999-US16405 19990721; AU 9952199 A AU 1999-52199 19990721; EP 1124973 A1 EP 1999-937341 19990721, WO 1999-US16405 19990721
FDT AU 9952199 A Based on WO 200005391; EP 1124973 A1 Based on WO 200005391
PRAI US 1998-93587P 19980721
AB WO 200005391 A UPAB: 20000330
NOVELTY - Nucleic acid construct (I) comprising a sequence (Ia) encoding an at least a fragment of an antibody (II) that can bind a transit peptide (TP) that directs an associated passenger **protein** to a **plant** cell organelle, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) a **plant** cell (III) comprising (I);
(2) a **plant** or progeny derived from (III);
(3) a monoclonal antibody (IIa) that specifically binds to an epitope of maize stearoyl-ACP Delta -9 desaturase or maize palmitoyl-ACP thioesterase;
(4) a hybridoma cell line 10E10, deposited as ATCC **HB** -12544;
(5) a nucleic acid fragment comprising 1 of 41 sequences of 17-1621 base pairs, given in the specification;
(6) a polypeptide (IV) comprising 1 of 7 sequences of 92, 362, 363, 9, 10, 31 or 249 amino acids, given in the specification; and
(7) a nucleic acid (V) encoding (IV).
USE - (I) is useful for **producing** (II) which decrease steady state levels of passenger **proteins** in the organelles of **plant** cells and **plants**, by binding to the TP (claimed), **producing plants** with altered **protein** levels.
ADVANTAGE - The antibodies and nucleic acids allow the directed modification of specific **proteins** in **plant** cells and tissues.
Dwg.0/0

L5 ANSWER 24 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-181143 [16] WPIDS
CR 1995-131362 [17]; 1996-277785 [28]; 1998-446089 [38]; 1998-541753 [46]; 1999-044581 [04]; 2000-181146 [16]; 2002-224942 [28]; 2002-424757 [45]
DNC C2000-056515
TI Eukaryotic layered vector initiation system useful for gene therapy and production of recombinant **protein**, comprises promoter that directs synthesis of RNA containing a vector construct.
DC B04 C03 D16
IN DRIVER, D A; DUBENSKY, T W; JOLLY, D J; POLO, J M
PA (CHIR) CHIRON VIAGENE INC
CYC 1
PI US 6015686 A 20000118 (200016)* 141p
ADT US 6015686 A CIP of US 1993-122791 19930915, CIP of US 1994-198450 19940218, CIP of US 1994-348472 19941130, CIP of US 1995-376184 19950120, US 1995-404796 19950315
PRAI US 1995-404796 19950315; US 1993-122791 19930915; US 1994-198450 19940218; US 1994-348472 19941130; US 1995-376184 19950120
AB US 6015686 A UPAB: 20020717
NOVELTY - Eukaryotic layered vector initiation system (A) comprises a eukaryotic promoter (EP), 5' of viral cDNA (I) which initiates the 5' to 3' synthesis of RNA (II) from (I). (II) comprises a vector construct (VC), expressing a heterologous nucleic acid (III), which amplifies autonomously in a cell.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) host cell containing (A);

(2) production of one or more recombinant **proteins** (IV) by growing eukaryotic host cells, transformed or transfected with (A), so that (III) is expressed;

(3) delivery of (III) to an animal by administration of (A);

(4) production of (IV) in the tissues of an animal by administration of (A) to the tissue; and

(5) production of packaged vector particles, and its introduction into a packaging cell line.

ACTIVITY - Anticancer; antiviral; antimicrobial; antidiabetic; antineurodegeneration; immunomodulatory; cardiant.

MECHANISM OF ACTION - Induction of a specific immune response; gene replacement or regulation.

USE - (A) are used to express therapeutic **proteins** in cell cultures; in gene therapy (for humans or animals), e.g. to induce a specific immune response; to inhibit interaction of an agent with cellular receptors; to express a toxin; to regulate the immune system or to express a replacement gene, e.g. for treatment or prevention of infections (by viruses or other pathogens), melanoma (or other cancers), diabetes (or other autoimmune disorders), graft versus host disease, Alzheimer's disease, heart disease, hemophilia, cytsic fibrosis and many others; or for production of packaged vector particles (also useful for gene therapy). (A) can also be used to produce transgenic **plants** that express resistance or growth promoting sequences.

ADVANTAGE - (A) provides a two-stage ('layered') mechanism for controlling expression of (III), i.e. EP (the first layer) controls **expression** of VC (the second layer). Cells infected with alphavirus particles are fully viable and present antigens efficiently; the antigenic **epitopes** exposed can be altered by selective cloning of gene subfragments (including expression of multiple epitopes), and they effectively stimulate cytotoxic T cells.

Dwg.0/24

L5 ANSWER 25 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-117169 [10] WPIDS
DNC C2000-035909
TI New recombinant expression system useful in increasing tolerance to hypoxic conditions for improving agronomic properties of **plants** such as *germination and seedling vigor*.
DC B04 C06 D16
IN DUFF, S; DURNIN, D; GUY, P; HILL, R; SOWA, A; XIANZHOU, N
PA (UYMA-N) UNIV MANITOBA
CYC 86
PI WO 2000000597 A2 20000106 (200010)* EN 44p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
AU 9945954 A 20000117 (200026)
ADT WO 2000000597 A2 WO 1999-CA587 19990624; AU 9945954 A AU 1999-45954 19990624
FDT AU 9945954 A Based on WO 200000597
PRAI US 1998-106638P 19981102; US 1998-90929P 19980626
AB WO 200000597 A UPAB: 20000228
NOVELTY - A recombinant expression system (I) comprising a gene encoding non-symbiotic **hemoglobin** (II) operably linked to a control sequence effective in host organism when transformed, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a cell transformed with (I);
(2) a transgenic organism comprising (I);
(3) a method of increasing tolerance to hypoxic conditions, comprising placing an organism having increased cellular levels of an oxygen-binding **protein** having a low dissociation constant for oxygen, under hypoxic conditions, where the oxygen-binding **protein** acts to maintain cellular energy status during the hypoxic conditions by making oxygen available for cellular metabolism at low oxygen tension;
(4) a method of lowering the level of fermentation **products** in an organism, comprising providing an organism having increased cellular levels of an oxygen binding **protein** having a low dissociation constant for oxygen, and reducing the level of fermentation **products** in the cells of the organism by maintaining cell energy status such that fermentation is bypassed;
(5) a method of increasing oxygen uptake of an organism, comprising exposing an organism having increased cellular levels of an oxygen binding **protein** having a low dissociation constant for oxygen, to an oxygen-containing environment, where the increased cellular levels of the oxygen binding **protein** result in increased oxygen uptake;
(6) a method of improving the agronomic properties of a **plant** , comprising growing a **plant** having increased cellular levels of an oxygen binding **protein** having a low dissociation constant for oxygen;
(7) a method of performing skin grafts, comprising isolating skin cells from a patient, transfecting the skin cells with an expression system comprising a nucleotide sequence encoding an oxygen binding **protein** having a low dissociation constant for oxygen operably linked to control sequences effective in skin cells, culturing the cells, and grafting them onto a region of skin tissue attached to the patient;
(8) a method of transplanting an organ from a donor to a recipient, comprising, obtaining an organ, infusing the organ with an oxygen binding **protein** having low dissociation constant for oxygen, improving the oxygen supply to the organ, and transplanting the organ into the recipient;
(9) a method of selecting seeds for breeding to **produce** seed lines having desirable characteristics, comprising growing a representative seed of a given seed line so that the seed germinates, isolating an extract from the seed, measuring levels of **hemoglobin** expression within the extract, and selecting or rejecting the seed for further breeding based on the **hemoglobin** levels; and
(10) a method of determining if a seed is germinating, comprising providing a seed suspected of germinating, isolating an extract from the seed, and measuring levels of **hemoglobin** expression within the extract, where high levels of **hemoglobin** expression indicate that the seed is germinating.
USE - (I) is useful in increasing tolerance to hypoxic conditions, lowering the level of fermentation **products**, maintaining cellular metabolism and increasing oxygen uptake of an organism, especially in **plants** for improving the agronomic properties such as germination and seedling vigor. (I) is also useful in improving the growth and survival of skin cells and organ transplants when transfected. (II) is useful as a marker in selecting the seeds for breeding to **produce** seed lines and determining the ability of the seed to germinate. (All claimed).
Dwg.0/13

L5 ANSWER 26 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 1999-610855 [52] WPIDS
DNN N1999-450116 DNC C1999-177811
TI New isolated **plant** homeobox genes, used to develop products for

regulating the fiber properties of fibrous **plants**, particularly woody **plants**.

DC C06 D16 P13

IN HERTZBERG, M; OLSSON, O

PA (ASCI-N) A+ SCI INVEST AB; (ASCI-N) A + SCIENCE INVEST AB

CYC 87

PI WO 9950417 A1 19991007 (199952)* EN 35p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
AU 9937379 A 19991018 (200010)
EP 1068326 A1 20010117 (200105) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE SI
CZ 2000003192 A3 20010117 (200107)
HU 2001001911 A2 20010928 (200168)
JP 2002509723 W 20020402 (200225) 40p
AU 746553 B 20020502 (200238)

ADT WO 9950417 A1 WO 1999-SE543 19990331; AU 9937379 A AU 1999-37379 19990331; EP 1068326 A1 EP 1999-919724 19990331, WO 1999-SE543 19990331; CZ 2000003192 A3 WO 1999-SE543 19990331, CZ 2000-3192 19990331; HU 2001001911 A2 WO 1999-SE543 19990331, HU 2001-1911 19990331; JP 2002509723 W WO 1999-SE543 19990331, JP 2000-541305 19990331; AU 746553 B AU 1999-37379 19990331

FDT AU 9937379 A Based on WO 9950417; EP 1068326 A1 Based on WO 9950417; CZ 2000003192 A3 Based on WO 9950417; HU 2001001911 A2 Based on WO 9950417; JP 2002509723 W Based on WO 9950417; AU 746553 B Previous Publ. AU 9937379, Based on WO 9950417

PRAI SE 1998-1129 19980331

AB WO 9950417 A UPAB: 19991210
NOVELTY - Isolated homeobox (**HB**) genes obtained from Populus tremula x tremuloides are new.

DETAILED DESCRIPTION - (A) A novel sequence class of **HB** genes (PALE) for regulating the fibre properties of fibrous **plants**, is characterized in that **proteins**, encoded by genes belonging to the class exhibit a penta amino acid loop extension.

INDEPENDENT CLAIMS are also included for the following:

(1) an isolated DNA sequence regulating the fiber properties of fibrous **plants**, characterized in the sequence exhibits at least a 50% identity with at least one of sequences (I) and (II) of 1136 and 1190 nucleotides (nt), respectively (given in the specification);

(2) an isolated DNA sequence regulating the fiber properties of fibrous **plants** characterized in that the sequence is capable of hybridizing to at least one of sequences (I) and (II);

(3) homeodomain **protein** or **proteins** regulating the cell differentiation of fibrous **plants**, characterized in that the **protein/proteins** exhibit at least 40% identity with at least one of sequences (III) and (IV) of 217 and 261 amino acids, respectively (given in the specification);

(4) **producing** transgenic fibrous **plants** that **produce** fiber having altered properties, comprising:

(a) constructing a **plant** expression vector which comprises in sense orientation of a sequence (I) or (II) and which will express that sense-oriented sequence when introduced into **plant** cells; or

(b) constructing a **plant** expression vector which comprises in antisense orientation a sequence (I) or (II) and which will express that antisense-oriented sequence when introduced into **plant** cells; or

(c) constructing a **plant** expression vector carrying a sequence from sequence (I) or (II) and which in other ways will directly change the expression of the sequence when introduced into **plant** cells;

(d) introducing the **plant** expression vector into a fibrous **plant** so that the sense-oriented sequence in the **plant** expression vector is expressed in the cambial region of the resulting transgenic **plants** to **produce** fibers having altered properties compared to corresponding fibers of untransformed **plants**; or

(e) introducing the **plant** expression vector into a fibrous **plant** so that the antisense-oriented sequence in the **plant** expression vector is expressed in the cambial region of the resulting transgenic **plants** to **produce** fibers having altered properties compared to corresponding fibers of untransformed **plants**;

(f) introducing the **plant** expression vector into a fibrous **plant** so that the in other ways altered sequence in the **plant** expression vector is expressed in the cambial region of the resulting transgenic **plants** to **produce** fibers having altered properties compared to corresponding fibers of untransformed **plants**;

(g) selecting transgenic **plants** as in (d)-(f) which exhibit altered fiber properties compared to those of untransformed **plants**; and

(h) propagating the transgenic **plants** as in (d)-(f), and

(5) a transgenic fibrous **plant**, characterized in that it comprises at least one functionally inserted gene belonging to the class of **HB** genes as in (A).

USE - The **products** and methods can be used for the regulation of the fiber properties of fibrous **plants** (claimed). They can be used in woody **plants** such as coniferous (softwood) and dicotyledenous (softwood) trees (claimed).

Dwg.0/5

L5 ANSWER 27 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 1999-479045 [40] WPIDS
DNC C1999-140943
TI New DNA encoding cubilin, used for treating toxicity, particularly nephrotoxicity, and as marker of kidney damage.
DC B04 D16
IN HAMMOND, T G; VERROUST, P J
PA (INRM) INST NAT SANTE & RECH MEDICALE; (TULA) TULANE EDUCATIONAL FUND; (INRM) INSERM INST NAT SANTE & RECH MEDICALE
CYC 23
PI WO 9937757 A1 19990729 (199940)* EN 134p
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA JP US
AU 9924623 A 19990809 (200001)
EP 1047773 A1 20001102 (200056) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
ADT WO 9937757 A1 WO 1999-US1259 19990121; AU 9924623 A AU 1999-24623 19990121; EP 1047773 A1 EP 1999-904167 19990121, WO 1999-US1259 19990121
FDT AU 9924623 A Based on WO 9937757; EP 1047773 A1 Based on WO 9937757
PRAI US 1998-72197P 19980122
AB WO 9937757 A UPAB: 19991004
NOVELTY - Isolated DNA (I) encoding a cubilin **protein** (II) is new.

DETAILED DESCRIPTION - (I) is:

(i) a DNA which encodes (II);

(ii) a DNA which hybridizes to the DNA encoding (II); or

(iii) a DNA which differs from the DNA as defined in (i) and (ii) only within the degeneracy of the genetic code, and which encodes (II).

INDEPENDENT CLAIMS are also included for the following:

(1) vector for expressing (I) in a recombinant cell, containing (I) and regulatory sequences;

(2) host cells containing the vector of (1) and able to express (II);

(3) isolated and purified (II), or its fragments, encoded by (I);

(4) detecting expression of (II) by hybridization of mRNA with a labeled probe;

(5) pharmaceutical composition containing (II), or its fragment, plus a carrier;

(6) a receptor (III) for ligands that consists of a cluster of EGF (epidermal growth factor) repeats and a cluster of CUB domains; and

(7) detecting renal damage by measuring levels of (II) in the urine.

ACTIVITY - Antitoxic.

MECHANISM OF ACTION - Cubilin is a ligand-binding, epithelial glycoprotein receptor that facilitates uptake of intrinsic factor/vitamin B12 complexes in intestines and kidney. It is also involved in endocytosis and trafficking of light immunoglobulin chains in renal proximal tubule cells.

USE - (II), or its fragments, are used to treat or reduce toxicity, particularly in kidneys, spleen, brain, liver, heart and thyroid (claimed). Cubulin mutations may also be implicated in idiopathic proteinuria, fetal malformation, poor fetal development and spontaneous abortions. (II) may also be used to raise specific antibodies, used to detect (II), or clones that express it, in standard immunoassays. Fragments of (I) can also be used to detect cubulin mRNA in cell and tissues, by hybridization. Abnormal levels of (II) in the urine are indicative of kidney damage.

Dwg.0/18

L5 ANSWER 28 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 1999-468145 [39] WPIDS
CR 2002-215077 [24]
DNC C1999-137215
TI Aggregating a desired molecule in a lipid bilayer, useful for protective production, directed secretion and in therapy, diagnosis and the biosynthetic production of molecules.
DC B04 C06 D16 E17
IN GALBRAITH, D; GIDDINGS, T; STAEHELIN, A
PA (COLS) UNIV COLORADO
CYC 1
PI US 5935822 A 19990810 (199939)* 27p
ADT US 5935822 A US 1995-407900 19950321
PRAI US 1995-407900 19950321
AB US 5935822 A UPAB: 20020429

NOVELTY - Aggregate molecules comprising an adhesive molecule attached to a desired product molecule are new.

DETAILED DESCRIPTION - A method to aggregate a desired product molecule in a lipid bilayer is claimed and comprises forming oligomers between two or more aggregate molecules that are physically associated with a lipid bilayer such that the aggregate molecules are accumulated in association with the lipid bilayer, where the aggregate molecules comprise a beta -glucuronidase (GUS) adhesive molecule and the desired product molecule is linked to the adhesive molecule by a transmembrane molecule.

INDEPENDENT CLAIMS are also included for:

(1) a non-naturally occurring membrane housing compartment contained within a cell, inside of which aggregate **proteins** are sequestered without substantially interfering with cellular function,

where the membrane housing compartment is chosen from an endoplasmic reticulum and a part of an outer nuclear envelope membrane, and where the aggregate **proteins** comprise a GUS adhesive molecule and a transmembrane molecule which anchors the aggregate **proteins** to the membrane housing compartment;

(2) a nucleic acid molecule encoding an aggregate molecule comprising a GUS adhesive molecule which forms oligomers between two or more aggregate molecules, the adhesive molecule attached to a transmembrane molecule and a desired product molecule functionally associated with the adhesive molecule;

(3) a method for increasing the concentration of a desired product molecule within a cell, and

(4) a **plant** cell comprising a non-naturally occurring membrane housing compartment as above.

USE - The method and products are useful for aggregating desired product molecules such that the desired products are sequestered in or within lipid bilayers. The method can be applied to production of a therapeutic composition.

ADVANTAGE - The sequestration acts to protect the integrity of a product molecule, as well as to facilitate recovery of the molecule.

Dwg.1/5

L5 ANSWER 29 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 1999-167127 [14] WPIDS
DNN N1999-121801 DNC C1999-048755
TI Transforming of duckweed with a nucleotide sequence - comprises propelling the nucleotide sequence in a micro-projectile at the duckweed tissue to pierce the cell walls.
DC B04 C06 D16 P13
IN RAJBHANDARI, N; STOMP, A
PA (UYNC-N) UNIV NORTH CAROLINA STATE
CYC 83
PI WO 9907210 A1 19990218 (199914)* EN 106p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
AU 9887799 A 19990301 (199928)
US 6040498 A 20000321 (200021)
EP 1037523 A1 20000927 (200048) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
CN 1272762 A 20001108 (200114)
JP 2001513325 W 20010904 (200165) 119p
MX 2000001464 A1 20010601 (200235)
AU 755632 B 20021219 (200312)
ADT WO 9907210 A1 WO 1998-US16683 19980811; AU 9887799 A AU 1998-87799 19980811; US 6040498 A Provisional US 1997-55474P 19970812, US 1998-132536 19980811; EP 1037523 A1 EP 1998-939350 19980811, WO 1998-US16683 19980811; CN 1272762 A CN 1998-806897 19980811; JP 2001513325 W WO 1998-US16683 19980811, JP 2000-506820 19980811; MX 2000001464 A1 MX 2000-1464 20000210; AU 755632 B AU 1998-87799 19980811
FDT AU 9887799 A Based on WO 9907210; EP 1037523 A1 Based on WO 9907210; JP 2001513325 W Based on WO 9907210; AU 755632 B Previous Publ. AU 9887799, Based on WO 9907210
PRAI US 1997-55474P 19970812; US 1998-132536 19980811
AB WO 9907210 A UPAB: 19990412
NOVELTY - Duckweed is transformed with a nucleotide sequence (NS), comprising at least one expression cassette comprising a gene, which

confers resistance to a selection agent, comprises propelling NS carried by a micro-projectile at duckweed tissue comprising cells and cell walls, so that the cell walls get pierced and SN can be deposited to transform the duckweed.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1) transforming duckweed by innoculating duckweed tissue with Agrobacterium comprising a vector which comprises NS; (2) transforming duckweed by introducing NS using electroporation; (3) the transformed duckweed tissue **produced** by these methods; (4) duckweed **plants** grown from the transformed tissue; and (5) a transformed duckweed **plant** comprising a heterologous nucleic acid in its genome.

USE - The nucleotide sequence enables the duckweed to encode and express recombinant **proteins** or peptides such as insulin growth hormone, alpha -interferon, beta -glucocerebrosidase, retinoblastoma **protein**, p53 **protein**, angiostatin, leptin and serum albumin, or encodes at least one **protein** or peptide subunit of a multimeric **protein**, e.g. **hemoglobin**, collagen, P450 oxidase or a monoclonal antibody. The heterologous **protein** or peptide produced is especially an enzyme. The duckweed is capable of **producing** and assembling all the subunits of the multimeric **protein** (all claimed).

ADVANTAGE - Duckweed offers an ideal **plant**-based gene expression system, useful for a number of research and commercial applications. For **plant** molecular biology research as a whole, a differentiated **plant** system, which can be manipulated with the laboratory convenience of yeast provides a very fast system in which to analyze the developmental and physiological roles of isolated genes. Model **plants** such as tobacco and Arabidopsis are currently used for this purpose by **plant** molecular biologists. These **plants** require greenhouse or field facilities for growth (often difficult. for **plant** molecular biologists to obtain). Alternative gene expression systems are based on microbial or cell cultures where tissue and developmentally regulated gene expression effects are lost. Heterologous gene expression systems also require restructuring of the gene of interest prior to insertion, an expensive and time-consuming process. A duckweed system overcomes both of these problems and is far easier to grow and maintain in a laboratory setting. If it is desirable to harvest the expressed **proteins** or peptides (or molecules **produced** thereby), this can be accomplished by any suitable technique known in the art, such as mechanical grinding or lysing of cells. For commercial **production** of valuable **proteins**, a duckweed-based system has a number of advantages over existing microbial or cell culture systems. In the area of mammalian **protein production**, **plants** show post-translational processing- that is similar to mammalian cells, overcoming one major problem associated with microbial cell **production** of mammalian **proteins**. Duckweed is also far cheaper to **produce** than mammalian cell cultures. It has already been shown by others (Hiatt, Nature 334, 469 (1990)) that **plant** systems have the ability to assemble multi-subunit **proteins**, an ability often lacking in microbial systems. **Plant production** of therapeutic **proteins** also limits the risk from contaminating substances, including animal viruses, **produced** in mammalian cell cultures and in microbial systems. Contaminating, substances are a major concern in therapeutic **protein production**. Unlike other suggested **plant production** systems, e.g., soybeans and tobacco, duckweed can be grown in fermentor/bioreactor vessels, making the system's integration into existing **protein production** industrial infrastructure far easier. As a **manufacturing** platform for lower cost industrial enzymes and small molecules, duckweed offers the advantage

that **production** is readily scalable to almost any quantity because it can be grown under field conditions using nutrient-rich wastewater. A genetically engineered duckweed system growing on wastewater could **produce** a valuable **product** while simultaneously cleaning up wastewater for reuse. Such a system would turn a net capital loss (remediation of wastewater from discharge) into a chemical or enzyme **production** system with a positive economic balance. Duckweeds' advantage over chemical **syntheses** in field crops is that **production** does not require arable crop land or irrigation water necessary to increase food **production** for the world's increasing population.
Dwg.0/1

L5 ANSWER 30 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 1998-179439 [16] WPIDS
DNC C1998-057740
TI Increasing **production** of heterologous haemo-**protein**(s) in transformed cells - by increasing levels of delta-laevulinic acid to increase **haem production**, also increasing haemB **production** by introducing hemA gene.
DC B04 D16
IN BEST, E A; LUCAST, L J; VERDERBER, E L
PA (SOMA-N) SOMATOGEN INC
CYC 78
PI WO 9808954 A2 19980305 (199816)* EN 26p
RW: AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
AU 9741495 A 19980319 (199831)
ADT WO 9808954 A2 WO 1997-US14165 19970829; AU 9741495 A AU 1997-41495 19970829
FDT AU 9741495 A Based on WO 9808954
PRAI US 1996-25812P 19960830
AB WO 9808954 A UPAB: 19980421
Production of a heterologous haemoprotein (I) is increased in a host cell by culturing in presence of an increased amount of delta -laevulinic acid (II) to increase **haem production**.
Also claimed are: (1) increasing haemb (III) **production** in a cell by transforming with at least 1 copy of the hemA gene, and (2) transformed cells for use in this process.
(II) may be added exogenously to the culture medium or endogenous **production** is increased specifically by insertion of at least 1 copy of the hemA gene (optionally several). The host is a bacterium, yeast, **plant** or (in)vertebrate cell, especially E. coli.
USE - The method is used to **produce** haemoglobin (**Hb**), myoglobin, chlorophyll, sirohaem, factor F430 or **haem** -containing enzymes such as Vitamin B12 catalase or nitric oxide synthase, especially human **Hb**, specifically the mutant rHb1.1. These **proteins** are used as oxygen carriers (in vitro or therapeutically), for oxidation of drugs, alkaloids and other xenobiotics, as blood substitutes (for treating e.g. anaemia, haemorrhage and ischaemia), also as an adjuvant in radiation treatment or chemotherapy of cancer, and for delivering drugs and diagnostic agents. (III) is known for treating hepatic porphyria and myelodysplastic syndrome, and may also be useful in cases of sickle cell anaemia, beta -thalassemia and myelosuppression associated with use of drugs, also as natural colouring agent. The method is based on the observation that (III) **synthesis**

is subject to **product** inhibition and that glutaryl tRNA reductase (the **product** of the hemA gene) is rate-limiting in **Hb synthesis**.
Dwg.0/0

L5 ANSWER 31 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 1997-132653 [12] WPIDS
DNN N1997-109463 DNC C1997-042894
TI **Haem protein prodn.** in **plant** cells contg. DNA encoding **protein** component - and **producing** the porphyrin core endogenously, esp. for large scale **prodn.** of virus-free haemoglobin for therapeutic use.
DC B04 C06 D16 P13
IN BAUDINO, S; DIERYCK, W; GRUBER, V; LENEE, P; MARDEN, M; MEROT, B; PAGNIER, R; POYART, C; PAGNIER, R J; MARDEN, M C
PA (BIOC-N) BIOCEM SA; (INRM) INST NAT SANTE & RECH MEDICALE; (INRM) INSERM INST NAT SANTE & RECH MEDICALE; (MERI-N) MERISTERN THERAPEUTICS & INST NAT SANTE; (MERI-N) MERISTEM THERAPEUTICS
CYC 72
PI WO 9704115 A2 19970206 (199712)* FR 105p
RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG
W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN
FR 2736930 A1 19970124 (199713) 87p
WO 9704115 A3 19970227 (199722)
AU 9666190 A 19970218 (199723)
EP 839204 A2 19980506 (199822) FR
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
US 6344600 B1 20020205 (200211)
US 2002194643 A1 20021219 (200303)
ADT WO 9704115 A2 WO 1996-FR1123 19960717; FR 2736930 A1 FR 1995-8615 19950717; WO 9704115 A3 WO 1996-FR1123 19960717; AU 9666190 A AU 1996-66190 19960717; EP 839204 A2 EP 1996-925810 19960717, WO 1996-FR1123 19960717; US 6344600 B1 WO 1996-FR1123 19960717, US 1998-983564 19980609; US 2002194643 A1 Div ex WO 1996-FR1123 19960717, Div ex US 1998-983564 19980609, US 2001-85853 20011018
FDT AU 9666190 A Based on WO 9704115; EP 839204 A2 Based on WO 9704115; US 6344600 B1 Based on WO 9704115; US 2002194643 A1 Div ex US 6344600
PRAI FR 1995-8615 19950717
AB WO 9704115 A UPAB: 19970702
Prodn. of **haem proteins** (I) comprises: (i) introducing into **plant** cells at least one nucleic acid (II) contg. at least one sequence encoding a **protein** component (Ia) of (I) of animal origin able to reversibly bind oxygen , or its variants or fragments, and opt. a sequence encoding a selective marker; (ii) selecting cells contg. (II); (iii) opt. propagating these cells in culture or by regeneration of complete transgenic or chimaeric **plants**; and (iv) recovering and opt. purifying (I), consisting of at least one complex of at least one (Ia) and at least one iron porphyrin core (A).
USE - (I) are useful where improved oxygen transport in the blood is needed, e.g. acute or chronic haemorrhage; shock; angioplasty; treatment of solid tumours (sensitisation to gamma -rays); preservation of organs intended for transplant and malignant haemopathy.
ADVANTAGE - **Plant** cells can **produce** (I), esp. haemoglobin, in large quantities at low cost and without the risk of contamination by viruses.Where (II) is controlled by a constitutive promoter, haemoglobin can be expressed at at least 1% of total **protein**, equiv. to 1 kg (before isolation)/hectare of tobacco.

Dwg.0/11

L5 ANSWER 32 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 1991-040094 [06] WPIDS
DNC C1991-017231
TI **Plant** growth stimulant which does not incur incompatibility - consisting of iron porphyrin opt. with added adjuvants of fertiliser.
DC C04
PA (MATS-I) MATSUSHIMA S
CYC 1
PI JP 02306908 A 19901220 (199106)*
JP 06039366 B2 19940525 (199419) 4p
ADT JP 02306908 A JP 1989-129351 19890522; JP 06039366 B2 JP 1989-129351 19890522
FDT JP 06039366 B2 Based on JP 02306908
PRAI JP 1989-129351 19890522
AB JP 02306908 A UPAB: 19930928
A **plant** growth stimulant contains iron porphyrin. Also claimed is the stimulant with added adjuvants of fertiliser, partic. phosphate fertiliser, and/or **plant** activator. Various porphyrins, e.g. protoporphyrin, hematoporphyrin, cuproporphyrin and uroporphyrin can be used in the form of iron salts, Fe3+.
USE/ADVANTAGE - A safe and highly absorbable **plant** growth stimulant without incompatibility.
In an example, one g of crude hematin was **prepd**. by the reaction of **hemoglobin** with an alkaline protease under alkaline condition and isoelectric pptn. Fe content 1-1.5 wt.%, heme content 10-16 wt.%, **protein** content 80-90 wt.%, and one g of sorbic acid were dissolved in one litre of water in the presence of a small amt. of NaOH. The obtd. soln. was stable and contained Fe3+ at level of 10-15 ppm/L.
0/0

L5 ANSWER 33 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 1989-138171 [18] WPIDS
DNC C1989-061103
TI Hybridomas producing high affinity monoclonal antibodies - specific for Bowman-Birk inhibitor, useful e.g. in food analyses.
DC B04 C03 D13 D16
IN BATES, A H; BRANDON, D L; FRIEDMAN, M
PA (USDA) US SEC OF AGRIC; (USDC) US SEC OF COMMERCE
CYC 12
PI US 246842 A0 19890228 (198918)* 4p
WO 9003574 A 19900405 (199017)
RW: AT BE CH DE FR GB IT LU NL SE
W: JP
EP 435925 A 19910710 (199128)
R: DE FR GB NL SE
US 5053327 A 19911001 (199142)
EP 435925 A4 19920506 (199521)
US 5459044 A 19951017 (199547) 15p
ADT US 246842 A0 US 1989-246842 19890228; EP 435925 A EP 1989-910804 19890919; US 5053327 A US 1988-246842 19880920; EP 435925 A4 EP 1989-910804 ; US 5459044 A Cont of US 1988-246842 19880920, US 1991-733795 19910722
FDT US 5459044 A Cont of US 5053327
PRAI US 1989-246842 19890228; US 1988-246842 19880920; US 1991-733795 19910722
AB US N7246842 N UPAB: 20011211
Hybridomas are provided which produce and secrete monoclonal antibodies with a high affinity for Bowman-Birk inhibitor (BBI). The antibodies provided having the following characteristics: (i) they are specific to

the active form of BBI, i.e. they react and bind with undenatured BBI, but do not bind with BBI which has been denatured by heat or disulphide exchange; (ii) they do not react and bind with KTI (Kunitz trypsin inhibitor); (iii) they distinguish classical BBI from other BBI's including LBI (lima bean inhibitor); and (iv) they bind BBI-protease complex, e.g. BBI-chymotrypsin.

USE/ADVANTAGE - The antibodies are useful for accurately and rapidly measuring low levels of BBI, such as are present in processed foods. They may be used to specifically measure active BBI in the presence of denatured forms: this would allow for monitoring active BBI in processes used to inactivate protease inhibitor activity so as to minimise damage to a food and minimise energy requirements of the process.

Dwg.0/7

L5 ANSWER 34 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 1987-124272 [18] WPIDS
DNC C1987-051555
TI Expressing genes in yeast - regulated on the post transcriptional level by haem, haem analogues or haem precursors.
DC B04 D16
IN MARCKER, K A; OSTERGARD, J E; JENSEN, E O
PA (DANI-N) DANISCO AS; (DASU) DE DANSKE SUKKERFAB AS; (DASU) DANISCO AS
CYC 24
PI EP 220679 A 19870506 (198718)* EN 56p
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
GB 2183656 A 19870610 (198723)
AU 8664338 A 19870507 (198724)
SE 8604517 A 19870425 (198724)
NL 8602657 A 19870518 (198725)
PT 83616 A 19870529 (198725)
NO 8604250 A 19870518 (198726)
DE 3636117 A 19870716 (198729)
FI 8604301 A 19870425 (198731)
DK 8504889 A 19870425 (198732)
BR 8605221 A 19870728 (198735)
JP 62181787 A 19870810 (198737)
FR 2598432 A 19871113 (198802)
US 4849348 A 19890718 (198936) 19p
GB 2183656 B 19900131 (199005)
AT 8602823 A 19921115 (199251)
AT 396249 B 19930515 (199323)
EP 220679 B1 19930609 (199323) EN 37p
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
DE 3688549 G 19930715 (199329)
FI 91083 B 19940131 (199408)
NO 175103 B 19940524 (199424)
ES 2054608 T3 19940816 (199434)
CA 1333162 C 19941122 (199502)
ADT EP 220679 A EP 1986-114704 19861023; GB 2183656 A GB 1986-25180 19861021; NL 8602657 A NL 1986-2657 19861023; DE 3636117 A DE 1986-3636117 19861023; JP 62181787 A JP 1986-253530 19861024; FR 2598432 A FR 1986-14807 19861024; US 4849348 A US 1986-874069 19860613; AT 8602823 A AT 1986-2823 19861023; AT 396249 B AT 1986-2823 19861023; EP 220679 B1 EP 1986-114704 19861023; DE 3688549 G DE 1986-3688549 19861023, EP 1986-114704 19861023; FI 91083 B FI 1986-4301 19861023; NO 175103 B NO 1986-4250 19861023; ES 2054608 T3 EP 1986-114704 19861023; CA 1333162 C CA 1986-521391 19861024
FDT AT 396249 B Previous Publ. AT 8602823; DE 3688549 G Based on EP 220679; FI 91083 B Previous Publ. FI 8604301; NO 175103 B Previous Publ. NO 8604250; ES 2054608 T3 Based on EP 220679
PRAI DK 1985-4889 19851024

AB EP 220679 A UPAB: 19930922
Expressing genes in yeast by introducing into a yeast cell a recombinant DNA molecule contg. both the gene to be expressed and a 5' flanking region comprising a promoter region and culturing of the transformed yeast cells in a growth medium, the 5' flanking region comprises a first DNA fragment contg. a promoter sequence in combination with a second DNA fragment contg. a leader sequence regulated on the post transcriptional level by **haem**, **haem** analogues or **haem** precursors.

In prefd. methods the **haem** analogue is deuteroporphyrin IX and the **haem** precursor is delta-amino levulinic acid. A prefd. plasmid contains a promoter sequence and a leader sequence in a DNA fragment with a 5' flanking region of a **plant** leg haemoglobin gene. The intracellular concn. of **haem** may be increased by adding to the growth medium carbon sources such as glycerol, succinate or EtOH.

ADVANTAGE - The method allows an increase of the expression of a desired gene by a novel regulatory mechanism acting at the post transcriptional level. As a result a reduced genetic load of the host cell and an optimal utilisation of the **protein synthesis** apparatus and the energy metabolism of the host cell is obtd. and consequently an increased stability of the expression vector in the host cell.
0/10

L5 ANSWER 35 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 1982-99744E [46] WPIDS
TI Controlling infections promoted by available iron - in body fluid, by admin. of e.g. silica-polyolefin composite to immobilise the iron.
DC A96 B05 D22 P32 P34
IN CERAMI, A
PA (EURE-N) EUREKA INC; (EVRE-N) EVREKA INC
CYC 16
PI WO 8203770 A 19821111 (198246)* EN 34p
RW: AT BE CH DE FR GB LU NL SE
W: AU JP NO
ZA 8203057 A 19830127 (198317)
EP 77826 A 19830504 (198319) EN
R: AT BE CH DE FR GB LI LU NL SE
JP 58500566 W 19830414 (198321)
US 4405606 A 19830920 (198340)
CA 1197779 A 19851210 (198603)
EP 77826 B 19890125 (198904) EN
R: AT BE CH DE FR GB LI LU NL SE
DE 3279385 G 19890302 (198910)
JP 02051404 B 19901107 (199048)
JP 03205058 A 19910906 (199142)
JP 04078309 B 19921210 (199302) 12p
ADT EP 77826 A EP 1982-901777 19820503; JP 02051404 B JP 1982-501766 19820503; JP 04078309 B Div ex JP 1982-501766 19820503, JP 1990-62492 19820503
FDT JP 04078309 B Based on JP 03205058
PRAI US 1981-260144 19810504; US 1982-374580 19820503
AB WO 8203770 A UPAB: 19930915
Infections caused by organisms which utilise iron present in body fluids are controlled by administration, to the infection, sufficient of an agent (A) to completely immobilise the iron, making it unavailable to the organism. Pref. (A) is colloidal silica (opt. as a composite with a polyolefin elastomer), cellulose based anion-exchange resin or a complexing **protein**. Pref. (A) is supplied as a 1-100 mg. per ml. soln. directly to the site of infection, e.g. a wound irrigation fluid, and the ratio (A):body fluid is pref. 2-3:1. Also claimed are devices e.g.

surgical sponges, bandages, gauze, sanitary napkins or tampons, made of absorbent material with (some of) the effective surface coated by (A).

(A) can be applied topically or intraperitoneally (in abdominal surgery) and effectively immobilise both red blood cells and haemoglobin. The rapid proliferation of bacteria induced by iron (which cannot be controlled by antibiotics) is prevented.

L5 ANSWER 36 OF 36 WPIDS (C) 2003 THOMSON DERWENT
AN 1980-29598C [17] WPIDS
TI Expressing gene coding for high mol. wt. **proteins** - by fusing isolated gene with carrier, then incorporating into host cell.
DC B04 D16
IN BRUCE, B J; FRASER, T H
PA (UPJO) UPJOHN CO
CYC 4
PI DE 2933000 A 19800417 (198017)*
JP 55039796 A 19800319 (198018)
GB 2033905 A 19800529 (198022)
FR 2450874 A 19801107 (198051)
DE 2953882 A 19820909 (198237)
GB 2033905 B 19821013 (198241)
PRAI US 1978-935686 19780821; US 1979-52708 19790702
AB DE 2933000 A UPAB: 19930902
Gene coding for an animal or **plant protein** of mol. wt. >1000 in a suitable carrier is expressed by fusing the appropriate gene (after its abstraction) near the transcriptional and translational initiation regions in the carrier, while maintaining the translational reading frame. The carrier is then introduced into a host. Pref. the gene is derived from a vertebrate, esp. a bird, and the carrier is pref. a plasmid. esp. pOP 203. The host may be a monocellular organism, esp. the E. coli K-12 deriv. **HB** 101. The same method can be used for expressing genes for **proteins** from **plant** or animal viruses. E. coli **HB** 101 (pUC 1001) DSM 1614 is a new microorganism, and pUC 1001 is a new plasmid.

The modified host cell is able to **synthesize** the **protein** expressed e.g. human serum albumin, interferon, anti-bodies, blood clotting factors, enzymes, viral antigens and **plant proteins**. Specifically plasmid pUC 1001 carries the information for **synthesis** of hen ovalbumin.